Acad. Prof. Dr. Dževad Termiz

METHODOLOGY
OF SOCIAL SCIENCES

UNIVERSITY OF SARAJEVO - FACULTY OF POLITICAL SCIENCES

INTERNATIONAL ASSOCIATION OF METHODOLOGISTS
OF SOCIAL SCIENCES BELGRADE

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Amni and Elvira

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Preface

Contemporary problems of scientific methodology in social sciences, as well as in the specific and special methodologies within them, are twofold:

1) External, which originate from social practice, constantly evolving and changing, and from developments in the spheres of science;
2) Internal, which stem from the development of the methodology of social sciences and their research methods, i.e., the success of scientific investigations.

It is not possible to exhaustively list all contemporary problems, so we will focus on the most important ones.

Among external factors, the greatest problems are the massiveness and diversity of problems, phenomena, and processes that need to be scientifically addressed. An essential, decisive factor for the survival and development of human society is scientific knowledge and its application in practice. Scientific knowledge is obtained through the application of various methods-regardless of what they are. These methods can vary greatly in effectiveness and cost. And that means that problems are diverse and that there are various methods and possibilities within methodology.

Another objective problem of the scientific methodology of social sciences and their sciences within it is its complexity and the difficulty of overcoming it. In the diversity of problems, different solving methods are necessary, which must be generalized and aligned with practical needs-through science and methodology!

The third external problem is the fact that scientific research is socially and scientifically demanding-and costly. Scientific research is the only successful way for social development-and such successful research presupposes developed methodology. And without support from methodology, there can be no sufficient, adequate, reliable, valid, and usable scientific knowledge.

Finally-the scientific research ensemble, in its structure, has very few true experts in methodological issues-and even fewer who are truly competent.

In a state of proper application of scientific methods. It is indisputable that the modern situation is filled with quasi-analysts, quasi-theorists, and quasi-scientists. In this sense, the ethics of science has fallen to a relatively low level, often exhibiting many characteristics of ideology. Contributing to this are also unprincipled struggles within science and among scientists.

A specific source of external difficulties in methodology is the consciousness of scientists-theorists, or their attitudes, which we can reduce to two essential points:

1). Theory is a matter of inspiration, motivation, and generalization of other theoretical stances and debates within it, all independent of the factual basis;

Theory is a research postulate, which does not consider the objectively existing structure of the theory. This leads to the conviction that knowing the theory is sufficient and that systematic empirical knowledge is not necessary, hence methodology is also unnecessary. Consequently, many weaknesses of theories, especially in prediction, arise.

Many problems also stem from the methodology itself, which has made many mistakes!

The first serious mistake is the underdevelopment of meta-methodology, without which there can be no valid link between the object of science and the methods of science, nor between meta-methodology and meta-theory.

The second, very common mistake, is the confusion between methodology and methods; and between methodology and methodology of research (or research techniques).

The third mistake is the opposition between quantitative and qualitative research-though they cannot be fundamentally separated.

The fourth mistake is the emphasis on research techniques while neglecting the problem of conceptualization.

The fifth mistake is neglecting the study of relationships between various types of methods.

The sixth mistake is that methodology does not develop its own axioms!

Seventh, insufficient attention is given to "personal errors" and the effects of choosing collaborators and research samples.

During the application of many methods, numerous errors are possible, and their identification is very difficult. The measurement of behavior and the effects of specific behavior has been formalized, but the difficulties have not been eliminated.[1]

[1] Special gratitude for the preparation and publication of the textbook in English is extended to my doctoral student, Alen Mušović, MA, and to Arnela Mušović, MA, Professor, for the English translation.

Introductory Remarks

So far, in the world, particularly in the USA and in the territory of the former SFRY, multiple methodologies of social sciences have been written and published. In Bosnia and Herzegovina (BiH), only one methodology has been published, authored by Rudi Stojak. However, all these methodologies were developed before the establishment of BiH as an independent democratic state. They were created based on Marxist principles-except for Đura Šušnjić's methodology. Given that social science methodology could not be isolated from social and ideological currents, it is undoubtedly necessary to prepare a new book on social science methodology under the current new conditions. This is the first reason to undertake this task.

However, this does not answer an important question: Is it justified and necessary to work on the issue of social science methodology at a time when the creation of specific methodologies is becoming increasingly pronounced, such as: methodology of law; methodology of political science; methodology of criminology; methodology of social work; methodology of pedagogy, sociology, etc.? There is no doubt that all these methodologies are more directly applicable to the methods and subjects of their respective sciences and disciplines. Does this make social science methodology redundant? What can it deal with, and what could its content and subject be beyond what is already covered by specialized methodologies?

Let us recall that science, in general, represents a specific unity expressed through the principles and axioms of science, as well as through the existence of common foundations of logic, basic and universal scientific methods, and fundamental research procedures. Accordingly, there is also a general methodology.

Considering the differences in research subjects and the universally accepted rule that each subject requires a specific method, a widely accepted division into natural and social sciences has been adopted. A certain degree of similarity (and consequently dissimilarity) requires the study of what is common - identical, similar, and different. The methodology of social sciences is necessary and possible precisely because of this.

The third reason is the needs of students. Social science methodology is a specific methodology compared to general methodology, but it is also general in relation to specialized and "transdisciplinary" sciences and disciplines. Students first encounter, either directly or indirectly, the fundamentals of methodology contained in the general methodology, along with the shared assumptions, principles, and rules that are important for specific fields. Therefore, students initially engage with the contents of the general methodology of social sciences. This fact requires that these common foundations of methodology be systematically organized and addressed in a single book. Without this, it is not possible to successfully master the material of specialized methodologies and specific scientific disciplines.

Due to the known situation, students relatively rarely have access to manuals and textbooks suitable for easy and successful use.

The reasons outlined for creating this work determine its content, structure, systematics, and style of presentation. In brief, everything is oriented toward the students' need to successfully learn the essential assumptions, principles, and rules of scientific research - starting from the study of university textbooks and manuals to the investigation of significant social phenomena and processes.

FIRST PART:
THEORETICAL – LOGICAL FOUNDATIONS OF SOCIAL SCIENCE METHODOLOGY

I – INTRODUCTION TO THE METHODOLOGY OF SOCIAL SCIENCES

I - INTRODUCTION TO THE METHODOLOGY OF SOCIAL SCIENCES

1. General concept of science, its structure and classification

The consideration of science as a social phenomenon and concept at the very beginning of this book is necessary because it studies scientific methodology, i.e., the methodology of science, and because methodology itself is part of science in general, social sciences, and specific and special sciences. Science is simultaneously determined by this part of it, as scientific knowledge is only that which has arisen from the application of scientific methods, and scientific methods are simultaneously a product of science.

1.1. General concept of science

First and foremost, science is a specific social activity. It is social in several aspects. Firstly, this activity is purposefully and expediently carried out by society, i.e., special parts of society. It is also social in that society uses the results of science in various areas of human and social life. And, finally, science, through its results, in various ways and through various paths, causes, stimulates, or otherwise acts on social changes as well as changes in nature.

Science is a dynamic and structured, very complex social phenomenon - a process[1)]. It is a social phenomenon because it can be identified as a social reality - a factor of social reality. It is dynamic because: a) it itself changes; b) because it acts - participates in changes in society and its environment. The complexity of science stems from complex social reality, from the multitude of its factors. In addition, it is also structured, because it is made up of basic, essential, relatively stable factors, which does not exclude its development. Its structuredness is also made up of a relatively stable set of properties, without which it would not be a complete social phenomenon that can be identified as a specific social reality.

1.2. Structure and structuredness of science

Structure is, by definition, a predominantly functional system (whole) of essential factors of various scopes and functions within the system, as well as various necessary properties. The essential factors of science are: 1) the subject and method of science; 2) scientific knowledge about the subject and method of science[2)], which can be viewed as: a) valid current knowledge; b) possible and probable knowledge; c) past, outdated knowledge; 3) fallacies and errors of science.

Current valid knowledge consists of knowledge that is considered true, acceptable, and usable at a given moment (period). This knowledge consists of knowledge that originated in a previous time and whose truthfulness is still accepted, as well as knowledge that has been confirmed (whose truthfulness has been proven or confirmed) in the given period. It can be said, starting from a different approach, that this is knowledge that has not been refuted.

Possible and probable knowledge is that which is reasonably assumed. However, it is necessary to distinguish between knowledge that is merely assumed based on indications or reflections and that for which there is a certain degree of probability, from higher to lower. Namely, on a nine-point scale, any degree of positively determined probability is possible. It should be borne in mind that knowledge with a high degree of probability in the social sciences transitions into the category of currently valid scientific knowledge.

Outdated scientific knowledge can be understood in two different ways. Firstly, it is knowledge that was fundamentally valid but insufficient, so its previous scope or degree has been surpassed. When this surpassing is achieved, such scientific knowledge moves into one of the previous groups. Secondly, a more accurate understanding of outdated knowledge is that which was valid in a certain previous period. With the development of science, it has been replaced by new, more productive knowledge.

Outdated knowledge of science can also be understood in a third way. Namely, the knowledge about a phenomenon remains true, but the phenomenon itself has disappeared, so that knowledge has become socially unnecessary in performing social functions. Such subjects of scientific knowledge primarily appear in the field of technology, although they are based on fundamental sciences such as physics and chemistry.

In addition to outdated ones, it is necessary to mention emerging sciences. They arise in two basic ways. The first is change and development in society, which result in the emergence of new phenomena that could not be studied before. In many cases, these phenomena were predicted, and even the foundations of their emergence were constituted by science itself.

The second way of emergence is the development of sciences and scientific disciplines and their multiplication by division.

The relatively stable structure of science is particularly made up of: 1) postulates and approaches; 2) axioms; 3) theorems (which are the basis of axioms); 4) theories (in whose composition we find verified, but also hypothetical knowledge); 5) scientific hypotheses; 6) scientific laws; 7) scientific arguments; 8) scientific beliefs and convictions; 9) scientific ideology, i.e., the value system of science. All these provisions relate to the subject and method of science.

It is justified to ask what is the subject of science in general and what is the subject of social sciences? Can the subject of science be determined with regard to its generality, and can the subject of social sciences be determined?

The fact is that science in general consists of all particular sciences and scientific disciplines that have their own subjects and methods[3)]. Can, therefore, the subject of science be considered a simple sum of the subjects of particular and specific sciences? We could not consider such a standpoint acceptable because science in general, as a special whole, has for its subject not only the particular subjects of particular and specialized sciences and scientific disciplines but also the relationships between them, as well as basic approaches, axioms, principles, rules, basic and general scientific methods. Therefore, the subject of science in general is the totality of society and its environment understood in process and in mutual internal and external relations. Science in general does not consider any aspect of society separately, but only as a whole. In short, the subject of science is generality, lawfulness, and regularity, and the goal is scientific explanation and scientific prognosis. It is similar with the subject and method of social sciences.

An integral necessary part of science are also certain properties that constitute its scientific nature. There are many of these properties, so we will list only the most important ones here. They are:

1) Subject-matter. This first property is necessary for the simple reason that it is impossible to research and learn nothing. However, subject-matter is not a given. It is not simply given even when it comes to natural reality, because every reality has multiple

dimensions, its own structure and properties, certain relationships, and it itself changes with changing circumstances and conditions. Subject-matter implies the discovery and constant articulation of the subject.

2) Verifiability of knowledge about the subject and method of science. The first prerequisite for verifiability is its knowability. For scientific (and any other) knowledge to be verifiable, there must be a real possibility of reaching it and forming it to a certain extent. To verify something, one must know what and how it is being verified, and there is no room for arbitrariness. The property of verifiability of scientific knowledge implies the possibility of interpersonal verification under certain conditions, the existence of valid arguments, and a procedure. Verifiability is in the function of truthfulness.

3) Relative truthfulness of scientific knowledge. Science, viewed as a whole, does not exclusively contain absolute truths, but predominantly truths limited by time, space, and the properties of the subject of science. The more concrete the subject of science, the less possible are absolute and universal truths. There are two essential reasons for this. The first is the variability of the properties and structure of the research subject. The second is the developmental nature of science itself.

4) Self-generation of science. This property of science means that science produces itself and develops itself. This cannot be interpreted as the isolation of science from everything else, but is only one of its peculiarities that coordinates with the self-generation of human society. Only strictly religious, fundamentalist, dogmatic approaches can call this proposition into question.

5) Systematicity of science. This property implies that scientific knowledge is acquired systematically, that acquired scientific knowledge is systematized according to certain criteria, and that it is presented systematically.

6) Rationality implies that scientific knowledge is primarily the result of intellectual work, the creative engagement of the mind (although not only intellectual but, in research, also other types of work), i.e., scientific practice.

7) Social expediency, which implies usefulness for progressive social development and the applicability of its processes and results in society.

8) Development is an essential property of science that also includes gradualness. It implies the movement of scientific knowledge from the more superficial to the deeper and more essential, from the simpler to the more complex, from the less accurate to the more accurate, from the descriptive to explanation and prediction.

9) True science is, at least in its aspirations, prognostic. It seeks to predict generalities, regularities, and laws of movement and to discover the cause-and-effect relationships and conditions of events and processes.

Other properties of science are also mentioned. In contemporary science, the neutrality of science was treated as an essential property of science for a period. In the second half of the twentieth century, the value of neutrality, which was understood as an essential condition of scientific objectivity and truthfulness, was disputed. With the emergence and development of the concept of actionalism and action research, neutrality and objectivity were negated as essential positive properties of science, and science was understood as instrumental and biased.

Without entering into polemics on this occasion, we will only note that the truthfulness of scientific knowledge requires a certain degree of neutrality, i.e., objectivity, although one cannot speak of its absolute impartiality and non-instrumentality. In its orientation towards the well-being of society, it is both biased and instrumental, but in the scientific cognition of truth about the subject and method of science, it is impartial, neutral, and objective, aimed at cognizing scientific truth.

Science characterized by the presented structure and properties performs several scientific and social functions, among which the most important are: 1) inspirational; 2) diagnostic; 3) prognostic; 4) orientational (guiding); 5) critical.[4)]

Fallacies and errors of scientific knowledge are also included in scientific knowledge. However, this scientific knowledge has a certain specificity. It consists in the fact that its subject is untruthfulness, incorrectness, the impossibility of certain, previously accepted knowledge. A typical example of this is the scientific knowledge, valid for a certain period, about the existence of phlogiston, about the exclusively rectilinear movement of light, etc. Such knowledge is relatively common in a methodological sense as well. Scientific knowledge about what is wrong – that is, refuted knowledge – is very important for the development of science and society. Namely, refuted knowledge in one developmental period can exist as a scientific idea that can be developed in another way and manner and, thus innovated, can be confirmed.

In accordance with the above, we can establish that in the structure of scientific knowledge there exists scientifically verified scientific knowledge (knowledge whose truthfulness has been confirmed), recorded but not yet verified scientific knowledge, and hypothetical scientific knowledge, which can be complete, whole, and partial.

The structure of scientific knowledge also consists of completely true, partially - predominantly true, and minimally true knowledge, as well as that whose truthfulness is undetermined.

1.3. Classification of sciences

In discussing the structuredness of science, we pointed out the fact that the structure of science in general includes scientific fields that comprise related sciences and scientific fields whose composition includes particular and special sciences and scientific disciplines. Scientific fields, within the general postulates and principles of science, differ in certain specificities of subject and method.

The oldest division of sciences, as well as all later divisions of sciences, are based on the criteria of subject and method. Newer classifications also include the properties of scientific knowledge of the science(s).

The oldest classification of sciences distinguishes:

1) Science in general - as an activity;
2) Natural sciences;
3) Social sciences.

Marxists, based on Engels's division of the subject of science, add psychological sciences to this classification - psychology, singling it out as transitional between natural and social sciences.[5)]

This classification, although empirically and theoretically well-founded, has certain shortcomings. These are:

Within the subject of natural sciences, there are two very different contents: a) inanimate nature and b) animate nature. Animate nature also includes two very different contents: a) flora and b) fauna. Obviously, there are very large differences between parts of the subject within the subject of natural sciences, and it is very difficult to speak of their relatedness. However, it is possible to find two undeniable determinants of commonality. In principle, natural sciences deal with original creations of nature - with the exception of technical-technological sciences.

Secondly, certain subjects (physics, chemistry) permeate all other subjects of all natural and most, if not all, subjects of social sciences. This is also the basis for the understanding that sciences can be divided into fundamental and others, into theoretical, empirical, normative, etc. These classifications do exist, but we do not need to engage in a discussion about them on this occasion.

In research, we use the term "interdisciplinary" - multiple disciplines of one science; "multidisciplinary" for diverse disciplines.

Here we can perform: a) definition and b) new classification.

Regarding the aforementioned classification, we must state that this classification does not recognize the concept of "multidisciplinary" and "transdisciplinary" sciences. Is this a shortcoming of the classification? If we consistently derive and use the terms "science" and "scientific discipline" (which are not detailed in methodology), we must conclude that "science" is a concept of a broadly defined whole, and that "scientific discipline" is a narrowly defined whole of science. In this sense, the term "multidisciplinary science" can only be understood as a science consisting of several of its own disciplines, but not as a science composed of disciplines from various other sciences.

This is not possible because each science has its own subject, but these are parts, aspects, etc., of the subject of a particular science. The term "transdisciplinary science" is also not acceptable due to imprecision. Does "transdisciplinary science" mean that the disciplines of the respective science are transitional to other sciences?[6)] Can a science whose majority of constituent disciplines are not primarily its own be considered a separate science? Obviously not. We must ask ourselves whether this term denotes sciences which are, by the character of their subject, a set of provisions of the subjects of other sciences?

But that is also not sustainable for the reasons already mentioned. However, it is true that some newly emerged sciences were created by separation from already existing sciences or by separation and synthesis of factors from other sciences which, when specially connected into the subject of a new science, form a more complete, more natural, and more functional whole. Their characteristic is transience and mediation.

The use of the term transdisciplinary sciences (e.g., cybernetics - computer science) is justified in the absence of a better term.

In the classifications of sciences known so far, we have not encountered the application of the criterion of method. This criterion is otherwise very clear and is mentioned as a peculiarity of sciences and scientific disciplines. According to our current knowledge, the methodological peculiarities that we justifiably use as criteria include:

1) The possibility of using certain research methods such as questioning and document analysis when obtaining original data. It is obvious that these methods primarily serve social sciences that deal with populations that have speech and other forms of symbolic communication.
2) Types and manner of scientific explanation. Thus, in social sciences, a true cause-and-effect explanation is hardly possible, and statistical and teleological scientific explanation is dominant.
3) Natural sciences are more inclined towards quantitative methods, exact measurements, and are more capable of establishing universal nomothetic laws and drawing such conclusions.
4) Natural sciences and their research are considerably freer from bias, and are thus able to be significantly more neutral and objective.

It seems justified, based on the above, to distinguish: sciences that can use all methods of data collection in original, direct contact with the subject of science (research) and sciences that cannot. Also, it seems justified to distinguish sciences that can form universal nomothetic laws and arrive at a true cause-and-effect explanation from those that are predominantly oriented towards statistical and teleological explanation.

2.Specifics of Social Sciences

The specifics of social sciences arise from the properties of the subject of these sciences and the methods of acquiring scientific knowledge.[7)] It is quite simple to state that the general subject of social sciences is man and human society. However, in a further and deeper understanding of this subject, we emphasize:

1. The population that forms an essential part of the subject of science is characterized by the abilities of thinking and judgment, voluntary behavior, planning, and evaluation. Given the diversity among individuals in the population, their pairs, groups, communities, and organizations, reliable generalizations are very difficult.
2. Man, people are simultaneously natural and social beings exposed to the influences of both natural and social factors. In some areas, natural factors are determinant while social ones are merely accompanying and corrective, while in other areas the opposite is true, but the connection between the natural and the social is always in an inseparable relationship. In this relationship, the natural is determinant in the foundations of existence. The origin of man, the essential conditions of his life (he must eat, drink, breathe, etc.), and his death and birth are, in essence, determined by nature. The possibilities for correction in these spheres are minimal.
3. Aspects and components of human life are innumerable, firstly, due to the multiplicity of human social life, and secondly, due to its changeability and development. And this also means that the properties and factors of the general subject of research are changeable.
4. The presented properties of the subject of social sciences raise questions as to whether psychology can be counted among the sciences that fall under the subject of social sciences. It is indisputable that human and social behavior takes place under the influence of consciousness and subconsciousness, under the influences of spirit, mind, and feelings. This is the reason to include psychology in the social sciences. However, there are also reasons to treat it as a separate group of sciences. Namely, the connection of psychic processes with social processes is similar to the connection of natural processes with society and social behaviors, and this connection is not in itself a sufficient reason for including psychology in the social sciences.
5. The subject of social sciences includes a multitude of sciences and scientific disciplines of various levels of generality of subject - with a clearly expressed tendency towards the formation of new sciences, primarily by the separation of certain scientific disciplines.

There are two situations of a similar character: the first is the constitution of one discipline into a science and the formation of special disciplines within it; the second is that one, two, or more disciplines or only some of their aspects are separated from two or more sciences and then connected into a new whole - a new science. There are cases where some disciplines of some sciences are incorporated into the subjects of many social sciences. A typical example is the incorporation of pedagogical disciplines into most recognized social sciences (sociology, law, economics, political science, social work, etc.) in various scopes and statuses.

6. In point four, we raised the question of the belonging of sciences and scientific disciplines to the social sciences. Within this question, there are essentially three questions: Must and can any complete, systematic, argued knowledge that has the essential factors of the structure of science and its essential properties be considered a science? Let us take philosophy as an example, which Marxists did not count as a science. Three problems arise in this regard. The first is the standpoint that practice is the subject and verifier of science and scientific results. Practice is empirical, but it also includes social creations, such as ideas, beliefs, convictions, knowledge, theories, etc. Does this mean that every science must have empirical research and empirical verification? In methodology, there is agreement that verification by practice is necessary, but there is no explicitly stated position that empirical research within the respective science is also necessary.

Although there is no explicitly stated position that empirical research is necessary as an instrument of verification by practice, it is an indisputable fact that practice is empirical. It consists of real actions and events, real connections, relationships, and influences on the basis of which certain states and processes arise and persist. Knowledge about them through perception, observation, thinking, and representation, as well as imagination of a prognostic type, is also human social practice.

However we define philosophy, we must state that it is: a) in itself a form of human practice because it is human contemplation and the expression of thoughts and ideas; b) the subject of contemplation is human reality, general, past, present, and future; c) philosophy is intended for human society and is in its function; and d) it can be researched using scientific methods, both empirically and theoretically. All the listed facts are indicators of science and scientificity. However, there is a stance on the value of secondary analysis. Given that scientific philosophy exists, and that epistemology and logic are part of philosophy, it can be considered that philosophy is one of the social sciences, although it also deals with the subject of natural sciences. Therefore, the answer to the question posed is: it is justified to consider cognitive wholes with the stated characteristics as sciences or scientific disciplines, especially if their method can also be identified.

In many cases, the imprecision of the names - terms used introduces considerable confusion into the meaning of concepts. The term social sciences is precisely an example of the previous claims. There are two essential arguments in favor of this understanding. First, it is indisputable that science is a very complex and significant social activity and that scientific knowledge is a product of that activity. Second, the basic approach to science and the approach of science to the subject and method of science are social. They are social in that, ultimately, all approaches to science and approaches of science are based on the starting points of the interests and concerns of society and on the use of the results of science, which society uses for its own purposes. We repeat, by their basic essential characteristics, all sciences are social activities, and their results are evaluated in accordance and on the basis of principles and criteria established by society, i.e., the corresponding part of its structure.

The name "social sciences" originated from the subject that a certain corpus of related sciences actually deals with - studies and researches. Unlike other sciences, "social sciences" study and research human society. Therefore, they study and research a very complex, self-generating, and multi-scientific phenomenon which, while retaining the properties of a natural phenomenon, also realizes very specific properties and factors of a social phenomenon. If one delves deeper into the analysis of the problem of defining social sciences, one returns again to questions about the subject of science and sciences. If we return to that, we will state that the general subject of science is social reality. This position can be challenged by simply pointing to the factual engagement of science with total reality, including natural reality, and understanding it as a whole of past, present (current), and future reality.

Why then is it claimed that the subject of science is social reality? For this, at least a few already mentioned arguments should be considered:

1. Science is an activity of society and its result, as well as its instrument.

2. The subject of science can only be those factors of reality about which knowledge in science is possible.
3. The reality with which society interacts is, by the very origin and existence of society and its actions, social, and natural creations are, in essence, a condition and subject of society's actions (conscious and unconscious). Nature can also be a cause, stimulus, and limitation to people and human society.
4. Current social reality, and even more so future reality, is characterized by very strong and effective interventions of society in nature.
5. Research of reality is determined by the knowledge of science and the interests and concerns of human society.

The five stated arguments are a sufficient basis for understanding the subject of science as social reality, and the subject of social sciences as a special, very extensive and dispersive, very complex and dynamic phenomenon – as an essential segment of social reality. In this way, we have also formed the basis for a clearer and more meritorious determination of the subject of both social sciences and the methodology of social sciences. Thus, the basis has also been formed for formulating an answer to the essential question: can the subject of science, which is made up of diverse corpuses, i.e., numerous sciences and scientific disciplines, be defined. It seems that the standpoint can be accepted that it is possible to determine the subject of science at the highest levels of abstraction that allow (and even require) further concretization and specialization. This allows for the formation of a logical and meaningful sequence consisting of:

1. Science as a totality - whose scientific subject is general social reality.
2. Corpus of related sciences - natural sciences:

   2.1. Natural sciences which include particular sciences whose subject is inanimate nature, and

   2.2. Natural sciences, whose subject is animate nature, etc.
3. Corpus of psychological sciences, which encompasses the total psychology of people and particular (special) individual sciences and scientific disciplines of psychology.
4. Corpus of social sciences, whose subject consists of society, social structures, organizations, communities, social processes, behaviors,

consciousness, and social creations in various areas of human and social life - individual, group, and community, in the past, present, and future.

The corpuses of social and psychological sciences are inseparable and greatly intertwined. They are also in close relationships with natural sciences, especially with the corpus that deals with animate nature.

3. Method and Methodology of Science. Methodology and Methodics

All human activities occur partly chaotically, partly spontaneously, and partly organized according to predetermined procedures. This assertion also applies to the processes of acquiring human knowledge and cognition. That is why in the definitions of some scientists, method is defined as a way, path, etc., of cognition. Indeed, knowledge is acquired in various ways, but scientific knowledge and understanding differ from all other knowledge by the method of its acquisition. It is acquired, ultimately, exclusively through the application of scientific methods. The word "way" seems conceptually too broad for the scientific method, as it can imply knowledge acquired through pure practice, accidentally, unsystematically; it can be intuitive and unverifiable, therefore unscientific. However, scientific knowledge is acquired by applying specific scientific procedures whose structure is scientifically established and whose usability, scope, appropriateness, penetrability, etc., have been repeatedly and many times verified and confirmed. Therefore, the word - the term way can only be accepted conditionally.[8)]

In scientific practice, we distinguish:

1. method of science,
2. research methods, and
3. basic methods of acquiring knowledge, both non-scientific and scientific (analytical-synthetic methods).

3.1. Method of science

The method of science is a constitutive part of science which ensures relatively true knowledge about the subject of science. This part of science is determined (conditioned) by the subject of science, its properties, structure, and relationships, as well as the development of science and its method in a specific time period. Furthermore, the subject of science and the method of science are in an interdependent relationship in their development. The truer, more comprehensive, and more precise the knowledge about the subject, the more favorable are the conditions for the development of the method; the more developed the method of science, the more dynamic is the development of knowledge about the subject. An essential property of the relationship between the subject and method of science is dynamics. A more accelerated and complete development of the subject places increasing demands on the method by revealing new problems. The method removes methodological obstacles and shortcomings in the scientific resolution of problems and simultaneously points to new problems of both the subject and the method.[9)]

The method of science consists of conceptions, postulates and principles, conceptualization of research, development of the research project and its verification, methods of all kinds, and especially techniques, instruments, and procedures in obtaining, processing, and interpreting data, adapted and tailored to the requirements of the properties and structure of the subject. In scientific-research practice, it has been confirmed that: a) the method - research methods must correspond to the characteristics of the subject; b) the research method of a science must encompass the methods of all scientific disciplines; c) that the same method is adapted to each individual research through the specification and concretization of the principles and rules of the method.

Therefore, the same general scientific methods, basic methods, methods of data collection, etc., are part of the method of science, adapted to the properties of the subject of science. The clearest examples are the application of the experimental method and measurement methods, the modeling method, and the statistical method in natural and social sciences.

3.2. Research Methods

The concept of research method can be defined in various ways, emphasizing its different provisions and characteristics.[10)] We will focus only on the most important ones for true scientific knowledge.

Method (research methods) is an essential instrument of true scientific knowledge. This statement does not exclude the possibility of non-scientific application of the scientific method for the purpose of cognition, but then there is no guarantee that it will lead to scientific knowledge. Method is essentially a procedure consisting of two essential parts: a) principles and rules of the method; b) factual application of the method. There is no doubt that various situations are possible in the application of a method, ranging from the wrong choice of method and technique, through superficial knowledge of the method as a cognitive system, inexperience and lack of criticality in application, to mechanical and uncreative behavior in application. That is why two essential requirements are set: a) sufficient knowledge of the method and the research subject; b) conscientious and creative application of the method as a scientific procedure for true scientific cognition, which enables more complete, more accurate, truer scientific knowledge about the research subject and ensures the improvement of research methods and the method of science.

From the presented definition of research method, the structure of the method logically follows, the basis of which consists of its three parts.

1. Logical part. The basic and essential characteristic of every science is its logicality. It is normal for the method to be strictly logical and meaningful. Therefore, it is natural that in this part of the method, the requirements of the method and logical rules are harmonized, which means: a) that first, a choice of logic whose rules will be respected is made. Let us recall that there are several types of logic (two-valued, three-valued, polyvalent) and that the logic on which the research project (draft of the scientific concept) is based also defines the logic of the method. However, the logic of Methodology does not necessarily determine the logic of the method, although it suggests it; b) that it is determined which rules must necessarily be applied in the research, and which can be applied with certain adaptation (e.g., rules of definition, rules - laws of true thinking and imagining, etc.).

2. Epistemological part. The rules of the method are based on knowledge about the subject of science, on the knowledge of verified scientific theory, and on the knowledge of methodology, as well as on the knowledge of scientific-research experience. Without the use of scientific-research experience, methodological research would not be possible.

3. Methodical-technical part. This part is actually the operational part of the method. It contains strictly established norms of procedure in application and factually operationally connects the contents of the logical, epistemological, and technical parts. The third, methodical-technical part, consists of: operationalized postulates of methods and techniques of methods. Namely, it is known that one method - e.g., questioning - is based

on several principles and provisions that apply in all situations of application and study of the questioning method, but it is also known that it has several types, several techniques, instruments, and procedures, as well as various values of contribution to scientific knowledge.[11)]

Research technique, as an integral part of the research method, consists of: A) procedures in: a) development, b) application of instruments for data collection, c) assessment, processing, and interpretation of data; B) instruments that are applied in research. All shortcomings of instruments and procedures are directly reflected in scientific knowledge.

There are various types of methods, and the criteria for their classification are diverse. The most common and most important criteria are: subject, generality, and structure - function, or validity - generality, applicability, and belonging to theoretical-methodological directions. However, the first two criteria are the most important. Their significance stems from the fact that they are fundamental to any further study of methods.

Before we present the classification according to the stated criteria, we must note that all realities of society can be scientifically researched, but there are also subjects that at a given moment cannot be researched by recognized scientific methods.

(1) By *subject*, we distinguish methods:

1. methods of all sciences;

2. methods of natural sciences, and within them:

   A) Methods of sciences about inanimate nature (physics, chemistry...),

   B) Methods of sciences about animate nature (flora and fauna),

   C) Methods of sciences about man as a natural living being (e.g., medicine).

Within each of them, there are diverse individual, particular, and special sciences and scientific disciplines.

3. Methods of social sciences, within which there are also many particular and special sciences, such as sociology, economics, law, pedagogy, political science, ecology, the science of social work, etc.

When making this classification, the problem arises of how to treat so-called "multidisciplinary" and "transdisciplinary" sciences such as cybernetics, military sciences - and even ecology and perhaps the science of social work.

4. Methods of psychology. The question still remains whether psychology should be classified as a social science and why, as well as the question of philosophy.

(2) By *generality*, it is somewhat simpler to apply classification criteria.[12)] According to this criterion, more precisely according to the criterion of fundamentality and generality, we have:

1. The most general methods, such as: the trial-and-error method which is embedded in the foundations of all methods, methods of proof and refutation, and scientific research as the most general and complex method of scientific cognition.

2. Basic methods of true thinking (which some authors also call philosophical methods) which include analysis and synthesis, abstraction and concretization, specification and generalization, induction and deduction. It is justified to add analogy to them, because all the mentioned methods are the basis for building all other methods, including the most general ones. Basic methods, which B. Šešić also calls particular, were subjected to an attempt to synthesize and group them under the common title of analytical-synthetic methods, within which two groups were formed: a) analytical and b) synthetic methods. These are not only methods of scientific cognition, but of human cognition in general. By their application, they belong to the most general, because they permeate all other methods.

3. General scientific methods, which include methods that can be applied and are, more or less, more or less frequently applied directly or indirectly in all hitherto known sciences and scientific disciplines.

These methods include: a) the hypothetico-deductive method; b) the statistical method; c) the modeling method; d) the analytical-deductive method; e) the axiomatic method, and f) the comparative method.

4. Methods of data collection and their processing. It can be rightly objected that this name belongs more to the criterion of role and functions, so a truer name, according to the criteria of this classification, would be individual methods. This includes methods that have their own strictly defined techniques - instruments and procedures, and individually determined roles and functions in scientific cognition. These methods include: observation, questioning, experiments, document (content) analysis and case studies, and even the biographical method.

(3) The *criterion* of structure allows us a dichotomy and distinction between: 1. methods that have developed systems of instruments and procedures, and 2. methods that do not have developed systems of instruments and instrument handling. It could be said that this dichotomy coincides with the conditional dichotomy that distinguishes between: 1. methods of empirical and 2. methods of theoretical research.

(4) By *role* and *function*, we can distinguish:

1. methods of conceptualization,

2. methods of data collection,

3. methods of data processing.

The aforementioned classification is not yet widely accepted, nor is the division into inductive and deductive methods - methods based on induction and deduction. However, the question remains whether basic methods, which permeate all methods, can be subsumed under methods of conceptualization.

(5) The *criterion of belonging to certain methodological schools* obliges us to first list the most important theoretical-methodological schools. These are:

1. Positivist, which includes: a) structuralist, b) functionalist, c) behaviorist.

The positivist approach itself contributed most to the formation of certain research rules, the development of empirical research, and the so-called methods of investigating causes.

Structuralism developed so-called structural analysis, and functionalism developed so-called structural-functional or functional analysis. Behaviourism contributed to the emergence and development of so-called "survey" research and S-R and S-O-R relationship models.

2. Axiological methodological school (also called historical) brought understandings of the specifics of researching man and society and the method of understanding, ideographic analysis, and the method - ideal type model.

3. Dialectical (materialist) school brought the analytical-deductive method, the dialectical-analytical-synthetic method, and the method of dialectical research models.

In addition to these basic and most clearly manifested schools, perhaps the phenomenological school should also be mentioned, and certainly the newly emerged and emerging schools which we will call: post-positivist, post-functionalist, post-axiological, and post-dialectical.

We will also mention the following methodological approaches: quantitative and qualitative.[13)] We can consider this dichotomy outdated because: (1) every phenomenon, every subject of science has its essence, content, its core, thus it necessarily has its determining qualities; (2) every phenomenon - subject of science has its form, thereby shapes that also express its dimensions, extension in time and space, duration, relationships, etc. These two indisputable insights indicate that a phenomenon - subject of science - research subject can be sufficiently known only if both the qualitative components and their quantitative determinations are scientifically known. Therefore, as a critique of the mentioned approaches, a third - integral approach should be added. We are not mistaken in thinking that we will be able to measure everything precisely and accurately at the current stage of sociometry development, but it is quite certain that a significant number of components and properties of manifested phenomena and the phenomena themselves will be measurable. Current research practice, especially the development of instruments and data processing, is integral, qualitative-quantitative. Measures and metrics are built into research instruments, and during processing, quantification procedures and statistical methods are almost always applied.

Let us also mention that in research practice, we encounter scientific research methods and methods for achieving certain social actions, methods for exerting influence, performing a profession, and methods for realizing various roles and functions in practice outside the process of scientific cognition. It cannot be considered that scientific research methods have no connection with the methods of practicing and influencing in practice. However, even when these methods are very similar, it is necessary to distinguish them.

In a word, scientific research methods are the most important instruments of scientific cognition and the basic substance of scientific research.

3.3. Concept of Methodology

There are three different, mutually opposing views[14)] in science about what methodology is.

The first view claims that methodology as a separate scientific whole does not exist. It is simply a segment of epistemology as a philosophical discipline. This is the least represented view and with the weakest arguments, or rather, with the strongest counterarguments. The first counterargument is: there are no obstacles for a matter belonging to a certain discipline of philosophy to be constituted into the subject of a scientific discipline or a separate science. Logic is a separate science, and it also belongs to epistemology. Mathematics is a separate science, although there is a philosophy of mathematics. The second argument is the state of scientific practice. The fact is that general methodology has already been constituted, that the methodology of social sciences has been constituted, and that many special methodologies have been constituted: of sociology, political science, law and criminology, pedagogy, the science of social work, physical culture, etc. Practice cannot be changed or denied by a philosophical stance.

The second view claims that methodology is a scientific discipline of logic. The arguments for this view are the close connection between methodology and logic, the participation of logical rules in the subject of methodology, and the necessity for methodology to be highly logical and meaningful.

All the listed arguments are true, but they are insufficient, and therefore the conclusion is wrong. The counterarguments are basically the following:

- firstly, the status of a science is established by the articulation and constitution of a sufficiently general subject and a corresponding method of science. In this specific case, the subject of methodology can be identified as the processes and methods of scientific cognition, methods of sciences, and research processes and methods. Logic and its rules are part of the subject of Methodology, but the other parts of the subject of methodology are more extensive and diverse;
- secondly, logic is defined as a normative science that does not require empirical research. Methodology also contains normative factors, but it not only investigates empirical research but also inevitably conducts empirical research itself - indirectly, through ongoing research of the subjects of sciences, and directly through methodological research; and
- thirdly, the subject of methodology also includes factors of the subject of science and their methods.

Therefore, methodology, whose subject is broader, cannot be a discipline of a science whose subject is narrower.

Based on what has been presented so far, we can state that the third view - that methodology is a separate - special science - is probably true.

Let us consider the arguments in favour of this view.

The first condition, a sufficiently generally defined subject of methodology, exists. Although methodology is most often defined as a science (scientific discipline) whose subject is the methods of scientific cognition, this definition of the subject is too narrow. The subject of methodology includes scientific-research conceptions; the relationship of axioms, theories, theorems; the relationship of subjects, variables, and indicators; instruments, indicators, and procedures; possibilities and ways of measurement; evaluation of data and drawing conclusions based on them; communication and application of research results. Besides, methodology as self-generating science research itself and constitutes meta-methodology.

Thus, the first condition for treating methodology as a separate science is met. A problem arises when the question of the method of methodology is posed. However, this is a false problem. The method of methodology consists firstly of a corpus of methods, concepts, etc., used in methodological research; secondly, meta-methodology, and thirdly, a corpus of scientific methods that can be adapted to the subjects of methodology. Thus, the second requirement is also met.

Regarding methodology as a science, a third question arises. In every science, a certain literary subject language is used, supplemented by specific linguistic expressions of that science, but the question of whether philology as a science is possible is not mentioned. It is formed as a question of whether methodology as an independent science is possible at all, as it appears as a segment of science in general, of a corpus of related sciences, and of every science and scientific discipline. This is also a relatively artificial question. The subject of science is also constituted as the subject of science in general, the subject of a corpus of sciences, of individual sciences, and of scientific disciplines. Methodology as a science is constituted according to the same principles, in accordance with its scientific subject. However, it has one specificity. Its disciplines, i.e., particular and special methodologies, appear simultaneously as disciplines of methodology and of other subject sciences.

3.4. Structure of Methodology

The structure of methodology as a science is very complex due to the multitude of sciences and scientific disciplines, the multitude of diverse research and research methods, and its relationships with other sciences.

The basic structure of methodology and its subject consists of three parts: (1) logical; (2) epistemological; and (3) scientific-strategic. The role of the first part is to adapt logical rules to the properties of the subject of science, i.e., the subject of research; the second, to connect the necessary scientific knowledge about the subject of science, i.e., the subject of research, with methodological-methodical knowledge into a functional whole; the third, to discover gaps and difficulties in scientific knowledge and research methods.

According to their roles, each structural part of methodology has its own contents and factors through which it fulfils its functions.

The content of the *logical* part mainly consists of:

1. conceptual determinations, orders, meanings, and relationships;
2. perceptions, representations, and thinking - identification of phenomena and processes;
3. processes and rules of true thinking and imagining;
4. logical valencies, their choice and application;
5. logical functions;
6. logical variables;
7. formation of propositions, judgments, and conclusions.

The content of the *epistemological* part is considerably more complex because it includes a segment that relates to the subject of science and the subject of methodology.

A. Contents concerning the subject of social sciences:

(1) axioms and postulates of science - in this case, social sciences. Although we do not intend to offer a list of axioms and postulates of social sciences here, instead, we could consider the roles and functions of the following propositions:

a) the proposition of reality (man and society - societies) as social realities that can be empirically and theoretically researched and about which categorical knowledge can be formed and axioms established;

b) social powers and forces;

c) stratification and hierarchies;

d) social productivity;

e) relationships, organization, and systems;

f) historicity, changeability, and relative static nature;

g) activities - actions and functions;

h) purposefulness and expediency;

i) collectivity, togetherness, and interdependence, etc.

(2) subject - structure and properties;

(3) theories of science and theoretical directions;

(4) paradigms of science;

(5) categorial-conceptual apparatus and language of science.

This is the minimum content that the epistemological part of methodology encompasses regarding the subject of science.

B. Content of methodological knowledge within the epistemological part:

(1) Axioms of methodology as a science. Until now, methodology has not systematically expressed its own axioms. It is useful to consider whether the following propositions can, with eventual critical processing, assume the role of axioms and categorial concepts:

a) observability and evidence;

b) verifiability;

c) truthfulness, accuracy, and precision;

d) prognostic nature;

e) correlativity and communicability;

f) expressibility and explainability;

g) applicability;

h) conditionality by the subject.

(2) Methodology and methodological directions;

(3) The relationship of norms, procedures, and requirements of methods to the requirements of the subject:

a) data sources and their characteristics;

b) types of data and their properties;

c) ways of obtaining data, their processing, and use.

(4) Problems of conceptualization;

(5) Relationships: theory - research; theory - research project design - development of the draft of the scientific concept and its application; theory - research results;

(6) The relationship and characteristics of empirical and theoretical research;

(7) Mutual relationships of methods and techniques, and instruments and procedures;

(8) Problems of scientific experience;

(9) Methodological research;

(10) Basic concepts, categories, and terms of methodology.

Content of the *scientific-strategic* part:

1. Theoretical-methodological gaps;
2. Success and weaknesses of applied methods;
3. Validity and functionality of the postulates of paradigms, theories, and methods;
4. Possibility of improvement, innovation, and construction of new methods;
5. Checks and corrections of research techniques, procedures, and instruments;
6. Problems of operationalization and the relationship between reality, concepts, and terms;
7. Introduction of new methods and/or new variations of proven methods for new social phenomena, including the emergence of new sciences and scientific disciplines.

This basic structure of the content of the subject of methodology allows for considerable elaboration and deepening and the realization of its essential functions.

Synthetically expressed, the essential, basic function of methodology is the comprehensive, successful, and dynamic development of science, increasing reliability, and facilitating the acquisition of scientific knowledge about the subject and method of science. It is therefore theoretical and empirical, normative, applied, critical, and instructively practical science, as well as technical science.

3.5. Classification and Sources of Methodology

Methodology is classified primarily according to the criteria of generality and subject, i.e., on the same basic criteria by which methods are also classified.

By *generality*, we distinguish: (1) General methodology, which deals with general methodological principles and postulates of scientific knowledge and basic and general scientific methods. (2) Special methodologies, which deal with the methods of special corpuses of sciences, general methods of individual corpuses of sciences, the application of basic and general scientific methods in researching the subject of a corpus of sciences and common methodological-methodical postulates that relate to the methods and research of particular and special sciences and scientific disciplines. (3) Methodologies of individual sciences and scientific disciplines (special methodologies) which also relate to meta-methodology ("methodology of methodology") and the theory of methodology ("theory and methodology of methodology").

Classification by generality correlates with classification by *subject*:

1. Methodology of science in general;
2. Methodology of natural sciences;
3. Methodology of social sciences;
4. Methodology of psychological sciences;
5. Methodology of concrete individual sciences and scientific disciplines.

Given the properties, structuredness, dispersiveness, and diversity of methodologies and methods, there must be multiple various sources of methodological knowledge.

The first and most general source is philosophy, and especially epistemology.

The second source is various scientific theories, their postulates and axioms, and theoretical propositions, judgments, and conclusions, as well as their hypotheses.

The third source is research into the subjects of sciences and the relationships between sciences and their subjects.

The fourth source is special methodological research.

Finally, as a fifth source, let us mention research conducted within the framework of methodics as a means of influencing or practicing.

3.6. Methodology and Methodics

The concept of methodics has long been defined and frequently used, but, unfortunately, it still happens that methodology and methodics are not distinguished at all or are insufficiently distinguished.[15)] Let us therefore consider the essential provisions of methodology and the essential provisions of methodics, and compare them.

It is common to all events in society and in nature that they arise, take place, and cause effects in some way. Some occur chaotically, others spontaneously, and a third by using some rational methods of action. Scientific methodology deals with the methods of a strictly defined process - methods of scientific cognition. Therefore, scientific methodology deals with all aspects of scientific research as a general and basic method of acquiring scientific knowledge.

Unlike methodology, methodics deals with the study of methods of influence and action in the practice of a phenomenon, change, or creation of a specific phenomenon. Research within methodics is only one of the practical instruments for acting on a phenomenon.

While scientific methodology investigates how to arrive at true knowledge about a phenomenon or process, methodics investigates and instructs how to influence a phenomenon or process, i.e., how to create a new phenomenon-process. In doing so, it uses scientific and methodological knowledge and transforms it into methods of influencing and practicing. Thus, methodics appears as a user of science, i.e., methodology. At the same time, methodics also appears as a subject of science - methodology, and as a source of knowledge for science - methodology.

The essential link between methodology and methodics is realized, stimulated by the essential property of the applicability of science - methodology. Methodics enables scientific knowledge to be put into practice. A very clear example of the connection and differences between methodology and methodics is in the use of the general scientific statistical method and daily records, as well as the application of data collection methods, which are applied in various forms and flows of social practice.

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II - SCIENTIFIC RESEARCH - THE BASIC WAY OF ACQUIRING SCIENTIFIC KNOWLEDGE

II - SCIENTIFIC RESEARCH - THE BASIC WAY OF ACQUIRING SCIENTIFIC KNOWLEDGE

In the previous discussion, we pointed to the possible and justified difference between the method of scientific cognition and ways of acquiring various kinds of knowledge: chaotic and spontaneous acquisition of knowledge, a purely experiential way, acquiring knowledge by example and transmission - reception, by critical thinking, etc. There are many ways to acquire diverse knowledge, but all such knowledge, even when confirmed and verified, is non-scientific. It differs from scientific knowledge in at least four essential respects: 1. it does not possess all the characteristics of scientific knowledge at once - simultaneously; 2. it is not acquired by the application of adequate scientific methods; 3. it does not have sufficient generality and reliability; 4. it does not have sufficient systematicity and systematization.

Closest to scientific knowledge is expert knowledge. It has been verified and confirmed many times, relies on scientific knowledge, and is most often a form of its concretization in application. It itself appears as a subject of research, uses research and activities very similar to scientific research, and also appears as a source of information in scientific research. The most obvious example of this is various organized records and statistical data. Moreover, certain knowledge, confirmed multiple times, in various places and at various times, by the experiences of various subjects, acquired by experience, has been axiomatized and has served to constitute general scientific methods. An example of this is the Hypothetico-Deductive method.

It is precisely the nuanced, manifold differences in knowledge and processes of cognition - from the simple adopted belief that something is true, through the concentration of to a certain extent verified and confirmed knowledge in the practice of a particular social community, to verified, confirmed, and proven scientific knowledge - that require us to specifically consider research as the basic general and synthetic method of scientific cognition, and to emphasize that it is simultaneously a method of science and a scientific method in that it is a result of science, its product. In its essential meaning, it is narrower than the general term "way."

1. General concept of research and scientific research

The general concept of research denotes a process - processes of diverse activities and actions in various spheres of human life that are aimed at acquiring and confirming knowledge about any subject of practice.

A definition formulated in this way is very broad and allows almost any human activity that leads to overcoming complete initial uncertainty or leads to the confirmation - refutation of expectations, which in itself contains the concept of searching, to be subsumed under the concept of research. When we pick up a pencil to write something, we expect the pencil to leave a corresponding mark behind it. However, this is not certain, but it is very probable under certain conditions. Therefore, we have unintentionally searched, researched, whether we will be able to write with that specific pencil in that specific case.

Regardless of the fact that this proposition and definition can be argued for, we consider it useful to significantly narrow the meaning of the term research so that it can be distinguished from broader terms such as acting, working, etc.

1.1 General concept of research

Research is a complex, intentional, organized, targeted, and purposeful activity aimed at acquiring true knowledge about any subject - about a situation, state, behavior, action, and act, about reality: past, present, and future.

According to this general definition, research is a specified activity different from others in its goal and subject. It is primarily aimed at acquiring knowledge about the truthfulness of the subject of interest; for this purpose, it is intentional, organized, and purposeful; for this purpose, it is carried out by various methods appropriate to the task.

There are various types of research, but for science and scientific methodology, it is important to distinguish:

1. dilettante research (amateur);
2. expert research (professional);

3. scientific research;
4. quasi-research. According to the rules of classification, it would be justified to first make a distinction between research and quasi-research. However, this requires overly extensive explanations that are not necessary in a book whose subject is the methodology of social sciences. Therefore, we will only briefly indicate the essential differences between the members of the aforementioned classification.

Dilettante research is that which is conducted by people without sufficient methodological and research education, so such research does not meet the appropriate norms of methodology and methods in conceptualizing, designing, collecting data, processing, and using the data obtained through research. Despite many theoretical and methodological shortcomings, this research, in addition to potential harm, can also be useful - at least as an incentive.

For special methodological research, dilettante research is an inexhaustible source of scientific knowledge about methodological and methodical, and perhaps even more often about methodic errors and their consequences.

Expert research is, as a rule, conducted by experts within and for the needs of their profession. They are, most often, excellent connoisseurs of methodics, possess valid knowledge in the field of methodics and the rules of methodic research, and a certain degree of knowledge in methodology. All such research, if conducted correctly, can be very useful for the profession and science.

Scientific research is the subject of detailed processing in the further text. Here we will only mention that this research is carried out by professional researchers-scientists in connection with the subject and in accordance with the method of science with which they permanently and systematically deal.

A special area of scientific research is methodological research - general and specialized.

1.2 Scientific Research

Scientific research encompasses highly complex processes involving intellectual and other activities that are strictly defined by subject and objective. These processes are realized through the application of essential scientific norms (such as axioms, approaches, definitions, theories, theorems, etc.) related to the subject of science and the research subject, as well as through the strict application of the norms of scientific methods, methodology, and research methods.[1)]

Scientific research has an established structure and procedure, defined criteria for selection and evaluation, and norms of conduct. It is always, to a greater or lesser extent, in the function of the development of science and scientific knowledge, even when it is, by type, action research.

Scientific research most often takes place within a single science or scientific discipline, although its subject can also be interdisciplinary or multidisciplinary. However, no research is known to date that would encompass the entire subject of a corpus of sciences. For natural sciences, this would be impractical, if not impossible, due to internal heterogeneity. The same applies to social sciences. If psychology, with its current knowledge about the practice of scientific research, is treated as a separate corpus outside the corpus of social sciences, perhaps such a general project could be established within it, but even that is unlikely given current trends.

Scientific research, due to the properties that should ensure the scientific nature of knowledge, is:

1. a process of acquiring new scientific knowledge; verification of current scientific knowledge; connecting old, existing, and newly emerging scientific knowledge;

2. an intellectual and psychophysical activity, a creative human social activity and action aimed at acquiring, criticizing, and applying scientific knowledge. Although research is indeed primarily an intellectual activity, the psychophysical component plays a very large role in its realization, especially when applying experimental methods and observation with participation. It can be said that the participation of physical engagement is conditioned by the properties of the subject and the type of research;

3. research is a rational, targeted, and purposeful, but also an intuitive activity. The less known and less directly observable the research subject is, the more intuition and inspiration are needed;

4. scientific research is a complex interweaving of theory, verification in practice, and drawing conclusions based on data. Scientific knowledge acquired through scientific research is argued, comparable, and

intersubjectively verifiable, even when the specific researched phenomenon itself is not absolutely repeatable;

5. scientific research is a continuous, or rather permanent, process and a functional, very complex, logical, productive system of harmonized parts and factors through which scientific knowledge is achieved. Every research of a research subject, whether the same or a related one, critically studies the results of previous research and, after appropriate evaluation and selection, relies on already achieved scientific-research knowledge;

6. an essential provision of scientific research is its creativity and its scientific and practical usability.

The presented descriptive definition clarifies the previously given characteristic definition and facilitates the understanding of research as a general synthetic method of science that mutually connects the proto-method of trial and error, the method of proof and refutation (which permeates all methods), basic, general scientific methods, and methods of data collection and processing.

1.2.1 Structure of Scientific Research

The structure of a phenomenon, process, etc., is a whole of mutually functionally connected essential factors. Unlike structure, the composition of a process, phenomenon, etc., is made up of all its factors.

The structure of research can be approached in several ways.

The first approach understands research as a process consisting of permanent, necessary stages. The first stage contains three phases:

- the first is the existence of a problem that should be investigated. This problem is sufficiently significant for society or science. Therefore, it must be perceived, identified, and evaluated in order to be accepted as a problem that is worth investigating. This phase can also relate to a foreseen probable problem, or a problem in its nascent stage. For science and scientific research, such existing scientific problems are also those if science has recorded them;
- the second phase involves discovering sources of knowledge about the problem and identifying scientific and other, more or less reliable and inspiring, knowledge about the problem;

- the third phase is the preliminary determination of the possible research subject and its articulation in the form of a research topic.

The second stage is the conceptualization of the research, and it also contains three phases:

- first, the choice or formation of paradigmatic postulates;
- second, defining the project task;
- third, creating a conceptual sketch - a preliminary project design.

The third stage involves the development of the research project as a scientific and operational document, i.e., a draft of the scientific concept, instruments, and research plans, and their verification, as well as the implementation of the research.

The fourth stage of research consists of preparing a report on the research results and the course of the research, and preparing appendices to the report.

The last, fifth stage in research is the application of knowledge acquired through research in science and social practice.[2)]

The second approach to the structure of research is given in the so-called "Ackoff's scheme"[3)] which operates with: research actors, actions of actors, and relationships in research. It lists as research actors: the client, scientists, field workers, and respondents (research objects).

These actors carry out the following activities: they commission research, articulate and organize research, collect and transfer collected data from data sources, process data and draw conclusions based on them, and inform clients about the results they have obtained, which the client ultimately uses.

Although the presented scheme is very useful, it does not provide all the stages and phases of research, and it also overlooks the possibilities of synthesizing the roles of actors in research. It is inapplicable to self-research, self-observation, and even to the (content) analysis of documents.

In the structure of research, the goals and purposes of the research play an important role. As they are integral parts of the research project, we will discuss them in the section where we will cover research design and the research project.

1.2.2 Types of scientific research

Research is an integral part of everyday life practice, an inevitable feature of which is the emergence of various problems. For some of them, traditional solutions already exist that are applied daily, but some problems are new, and solutions for them are sought. This search for solutions to problems is called "research". Not all problems are scientific, especially not individual ones. This is sufficient reason to distinguish scientific research from other (non-scientific: expert, amateur, dilettante, etc.) types. The multiplicity of scientific research, caused by the multitude of scientific problems and their diversity, the development of society and science, and the existence of several various special sets of sciences and scientific disciplines, requires their systematization and classification. The classification of scientific research must itself be scientific - based on the rules of the basic scientific method called specification. This means that classification must be carried out on the basis of validly defined criteria that allow for classifications by division as well as classifications by merging, by synthesizing.[4)]

There are usually four groups of classification criteria: 1. research subject; 2. research duration; 3. research method; and 4. role and function of research, primarily in science.

1.2.2.1. Classification of research by subject

(1) We most often encounter the dichotomy of (1) theoretical research - (2) empirical research. The subject of theoretical research is scientific theory or theory in general. The subject of empirical research is social reality. If theory is also understood as a form and part of social practice, empirical research is by subject broader, so this division is also only conditional. In scientific-research practice, all research is necessarily theoretical-empirical, due to the role of theory in research (the initial stage is theoretical, the second stage is research-empirical, the third stage is theoretical) according to the scheme of scientific cognition.

Another meaning can be added to the subject dichotomy. Theoretical research can also be understood as methodologically determined - it is theoretical because it uses only theoretical methods, while empirical research collects and processes empirical data and draws conclusions based on them.

When considering this dichotomy, it should be borne in mind that theoretical research does not consist only of scientific thinking about propositions, judgments, and conclusions, but also about the subjects to which they relate, and these subjects are most often empirical. Propositions, judgments, and conclusions are expressed in a certain way, and these statements are also part of social reality - part of empiricism.

(2) The second dichotomy also requires a critical approach because it contains an auxiliary criterion. Usually, a distinction is made between (1) mass research - research of mass phenomena, and (2) individual research. However, between mass and individual phenomena in society, there are also phenomena that, by scope - number of units, fall between mass and individual. Besides, the definition of the research unit is a matter of research convention. Nevertheless, this dichotomy functions. For example, population, citizens, women, the elderly, settlements, etc., are mass phenomena, and if we research them, the research subject is massive. But if we research only one event - specific concrete elections held on day "x" in place "y", the research is individual. Another meaning can be attributed to individual research. It is possible to research only one subject, one personality, and only once. However, the true meaning in our case is the one presented first.

(3) A distinction is made between research of (1) the subject of science (scientific-subject research) and (2) research of the method of science (methodological research). This dichotomy is also only conditional because every research of the subject of science factually tests the methods applied in that research as well.

(4) In research scientific practice, there is also research that is: (1) quantitative - whose subject is primarily quantity - amount, volume, distance, duration, frequency; (2) qualitative - whose subject primarily consists of properties, relationships, actions, etc. However, contemporary research is most often qualitative-quantitative. Besides, every quantity is a quantity of some quality. In social sciences (and due to the requirement of subject-matter in science), "nothing" cannot be quantified or measured, but only "something". Insisting on the statement "something" is insisting on the necessary degree of definiteness. In most research within already constituted sciences and scientific disciplines, the framework of this definiteness is already determined, so it is primarily a matter of precision. However, in emerging sciences or scientific disciplines, their framework is not yet established, and research can appear as the search of that science or scientific discipline for its own frameworks and definitions. But even then,

this research is a scientific search for an answer to the question of what that something is. Even the result of the research cannot be "nothing," but rather we assume it is not that, or that it is not there.

(5) The usual classification by the criterion of research belonging to a specific scientific field is: (1) research in natural, (2) psychological, (3) social sciences, and further by the subject of particular sciences and scientific disciplines (research in: a) legal, b) political, c) economic, d) linguistic, etc., sciences). Based on this classification, we encounter the distinction between: (1) intradisciplinary research whose subject belongs to one specific discipline; (2) interdisciplinary research whose subject (subjects) belongs to various disciplines of one or more sciences; and (3) multidisciplinary research whose subject (subjects) falls into many disciplines of multiple sciences.

1.2.2.2. Classification of research by duration

The duration of research as a criterion requires definition and quantification. The usual distinction is:

1. (1) long-term, (2) medium-term, (3) short-term, and (4) "blitz" research. However, which research is long-term, or medium-term, etc., is a matter of research convention. The criteria of duration depend on the equipment of the researcher, available resources, the number and qualifications of researchers, as well as the type of research and the situation in the field and the research subject. Moreover, there is no direct conditioning between the scope and duration of research in an era of highly developed technical means.

It is therefore justified to include certain types of research in this group of criteria:

2. (1) Longitudinal - which track the occurrence of a specific process over a certain period and are necessarily long-term; (2) panel, where one research subject is successively investigated on the same (approximately and conceptually the same) sample. For example, the research is repeated every three months, so the combined research can last for several years; (3) repeated dependent and repeated independent research. Repeated dependent research is that which did not succeed in the first attempt and is therefore repeated. Repeated independent research is similar to panel research, but its sample is independent, and its subject can be expanded; (4) cross-sectional, which captures the state of affairs and which, by its

nature, must be relatively short-term; (5) mosaic research, which can be very long-term or very short (e.g., when applying the "case study" method). Serial research and mosaic research are, as a rule, internally distinct but connected by concept, subject, and the general research project.

1.2.2.3. Classification of research by the criterion of applied methods

The criterion of applied methods is multi-level and multi-layered, thus very complex. Hence, its application in practice is realized through several special classifications. The most common distinctions are:

1. (1) experimental, in which the exclusive or dominant method is the experiment. In social sciences, experimental research also includes strictly regulated and controlled research; (2) survey-based, in which the dominant method is questioning based on samples of respondents; (3) observational, in which the dominant method is observation; (4) multi-method, in which various methods are applied in a relatively equal status.

2. The second classification group of research consists of those that belong to various theoretical-methodological schools and approaches; thus, we distinguish: (1) positivist; (2) structuralist; (3) functionalist; (4) behaviorist; (5) dialectical, etc. Sharp distinctions according to the criteria of theoretical-methodological schools no longer exist. It can be said that a synthetic concept prevails, and the properties of research are predominantly determined by selected paradigms, approach postulates, and premises in the research project.

1.2.2.4. Classification of research by role and functions in scientific cognition

This classification criterion is exceptionally important, yet it is such that it requires constant critical re-examination and refinement. The reason for this is the existence of numerous sub-criteria that can appear simultaneously, intertwine, etc. It can be said that within the classification group, they are not sufficiently discriminative.

The following classifications are most commonly encountered:

1) by role: (1) fundamental, (2) applied, (3) developmental. This classification is borrowed from natural or technical sciences, and its logic is

as follows: fundamental research discovers the basic, essential provisions of a phenomenon and forms the necessary knowledge that can be built upon and elaborated. Applied research acquires scientific knowledge about the possibilities, ways, and spheres of applying knowledge. Developmental research discovers the possibilities, areas, and ways of concretely applying knowledge for their improvement. This classification is not best suited for social sciences. Namely, almost any research can be oriented towards all three levels, and research results can be used for scientific and practical purposes. Therefore, in social sciences, one does not speak of fundamental sciences (in natural sciences, these are physics and chemistry), but the criterion of generality is used. Sociology, philosophy, or history are the most general.

2) The second, much more suitable and applicable criterion is the research objectives, primarily scientific ones. The role of research is already determined by the formulation of its objectives. According to this criterion, we distinguish: (1) descriptive; (2) classificatory-typological, which enable the construction of classifications and typologies of subjects; (3) heuristic, which achieve the discovery of essential factors and provisions; (4) causal (explicatory), which establish scientific laws and scientific explanations; (5) prognostic, which enable scientific prognosis. Given the possibility of summarizing multiple objectives, the highest set or achieved research objective is taken as the classification criterion.

3) Based on the research task criteria, we must distinguish between: (1) Diagnostic research: The purpose of this research is to scientifically and accurately establish the current state or situation. (2) Verificatory research: The purpose of this research is to check the validity of existing scientific knowledge, confirm it, modify it, supplement it, or reject it. (3) Prognostic research: The purpose of this research is to scientifically predict future events.

4) We've previously distinguished between scientific, professional, amateur, and dilettante research, so there's no need to revisit that. However, we should differentiate between: (1) Research whose sole or dominant purpose is to acquire scientific knowledge. This type of research aims to expand understanding for its own sake. (2) Research whose purpose is to achieve a certain interest. This category can be further broken down into: (3) Instrumental (action) research: This type of research uncovers methods by which a specific social objective could be achieved. For example, it includes studies on how to successfully set up and implement a TV program or on potential methods for social work. (4) Manipulative (or therapeutic)

research: The process of this research simultaneously is the process of actually achieving the intended purpose. For instance, the research might be an integral part of a TV program and its execution, or in social work, an interview might directly influence a client's behavior.

Action research is transitional, moving from purely scientific toward practical-professional, and ultimately toward a methodology of work, whereas manipulative (therapeutic) research falls directly into methodology.

5) We'll also briefly mention the dichotomy of research based on competence and success. By competence, we distinguish between: (1) Scientifically competent research: This refers to research that positively applies the rules of methodology and methods, and successfully achieves its scientific goals, purposes, and tasks. (2) Incompetent research: This refers to research that does not meet those requirements. The criterion of success is clear: it's not difficult to differentiate between (1) successful research-that which met expectations-and (2) unsuccessful research-that which did not.

We've only presented some possible and most common classifications of research here. This doesn't exclude other valid and applicable classifications. In general, all classifications should be understood as conditional.

2. Essential Factors in the Scientific Research Procedure

All scientific research is conducted according to the same basic rules of scientific methods. Within these rules, the specific provisions of the starting point (paradigm) and the methodological-theoretical approach and methods applied in that particular research are considered. All research also shares the same fundamental structure.[5)]

The basic structure of any research includes:

1. Identifying the problem: This involves discovering, articulating, and defining the problem's place within the scientific system based on its specific characteristics.
2. Assessing the suitability of the problem: This evaluates whether the problem is appropriate for research, and for the specific type and kind of research intended.

3. Developing the scientific-cognitive basis: This step lays the groundwork for approaching the conceptualization phase.
4. Preliminary research (if necessary): This can be theoretical, empirical, or a combination of both.
5. Developing the conceptualization and its review: This includes creating the project brief and the preliminary design.
6. Defining the research topic: This involves the preliminary determination of the research subject, which is one of the most crucial and complex stages.
7. Developing the (implementation) research project: This comprises the outline of the scientific idea, research plans, methods, techniques, and research instruments.
8. Executing the research project: This begins with forming and training the research team, and then validating their readiness.
9. Testing the research project and team, and making interventions based on test results (preliminary research).
10. Assigning tasks and collaborators to specific jobs.
11. Fieldwork (or solely desk work): This depends on whether it's theoretical or empirical research.
12. Controlling fieldwork operations.
13. Organizing work and processing the collected data.
14. Drawing conclusions based on data for each hypothesis (each variable, indicator, and the relationships among them).
15. Stating research results as scientific knowledge gained through the research and as the fulfilment of the research's aims and tasks.
16. Producing a report and presenting research results.
17. Stating and recommending the application of research results.

The essential factors of research are: the problem, the subject, aims and tasks, activities and means for solving the problem, results, and their application.

Research results must possess certain properties:

(1) Functionality and productivity: Research must be a functional and productive combination of past, current, new, and potential knowledge, ensuring its development and progressiveness.

(2) Intuitiveness and rationality: It must be an interweaving of intuition and rationality, knowledge and imagination, ensuring its incisiveness and prognostic ability.

(3) Scientific grounding and verifiability: The research procedure and results must be scientifically and theoretically founded; intersubjectively verifiable, scientifically substantiated, and comparable; and truly correspondent with the phenomenon.

(4) High-functional system: Research must be a highly functional system where all components are interconnected into a harmonious, productive whole and meaningfully synchronized.

(5) Cognitive and practical applicability: It must be cognitively and practically verifiable and applicable, stimulating, and positively guiding.

Without these properties, research cannot fulfil its scientific and social functions.

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1. For more on research (definition, classification, etc.), see:
- (1) Ristić, Živan: *On Research, Method*, and Knowledge, p. 257.
- (2) Milosavljević, Slavomir: *Research of Political Phenomena*, Institute for Political Studies, Belgrade, 1980, pp. 9-21.
- (3) Milosavljević, Slavomir - Radosavljević, Ivan: *Foundations of Methodology of Political Sciences*, pp. 59-76.
- (4) Mihailović, Dobrivoje: *Methodology of Scientific Research*, p. 65.
- (5) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, pp. 28-36.
- (6) Termiz, Dževad: *Foundations of Methodology of Social Work Science*, pp. 23-31.

2.
- (1) Pečujlić, Miroslav: Methodology of Social Sciences, p. 8.
- (2) Nagel, Ernest: The Structure of Science, p. 487.
- (3) Goode, William J. and Hatt, Paul K.: Methods in Social Research, pp. 36, 46, 89, 439, 639.
- (4) Lukić, Radomir: Methodology of Law, pp. 32, 52, 142.
- (5) Milić, Vojin: Sociological Method, pp. 321-324, 380.
- (6) Gilli, Gian Antonio: How to Research, Školska knjiga, Zagreb, 1974, p. 12.

3. Milosavljević, Slavomir - Radosavljević, Ivan: Repository of Social Research Methodology, pp. 2-10.

4. The classification of research is derived from practice. For more on this, see:
- (2) Mihailović, Dobrivoje: Methodology of Scientific Research, pp. 68-71.
- (3) Fitzgerald, D. Jack - Fox, M. Steven: Research Methodology in Criminal Sciences, pp. 5-8.
- (4) Termiz, Dževad: Foundations of Methodology of Social Work Science, pp. 27-31.
- (5) Termiz, Dževad - Milosavljević, Slavomir: Introduction to the Methodology of Politicology, pp. 28-33.

5. Ristić, Živan: On Research, Method, and Knowledge, p. 260.

III - LOGICAL FOUNDATIONS OF SCIENTIFIC RESEARCH

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Scientific research is a process of scientific inquiry using scientific methods. It's logical, meaningful, systematic, and capable of yielding relatively true knowledge. For knowledge to be true and the process of acquiring it valid, previously gained knowledge and the rules established from it regarding how to acquire true knowledge must be respected. The fundamental and general rules for acquiring knowledge are systematized in the science called logic.

The rules of logic apply to all cognitive processes, not just scientific ones. However, while logical rules are fundamental and obligatory, they are not the only rules we must adhere to in the process of acquiring scientific knowledge.[1)]

There's a significant difficulty in applying logical rules that each researcher addresses in their own way. In scientific practice, various logics appear, ranging from bivalent to polyvalent, and from elementary formal to complex and dialectical.

In our further discussions, we will acknowledge the fact that elementary formal logic underlies all logics. Our task is not to research logic itself, but to state the fundamental essential characteristics of logical thinking necessary for every researcher, scientist, and any conscious individual striving for valid thought that leads to truth.

1. Observation and Thought

Social reality is complex and dynamic, with diverse people being a crucial factor across different periods. It's rich with various things, processes, events, relationships, actions, operations, influences, etc., all stemming from natural, psychological, and social origins. Humans, individuals, encounter some of these elements at various times, in different places, and under diverse circumstances-sometimes independently of their will, and other times by their own volition-establishing a range of temporary or lasting relationships with them.

The first act of encountering and establishing a relationship (a conscious one) for a social being is the observation of a particular object. This object can be material or immaterial, a thing or a symbol, meaning any factor within social reality.

Observation, in our context, cannot be reduced solely to sensory experience. Instead, it encompasses feelings and every other form and method of establishing a relationship with some reality of social reality. This includes not only past or current social reality but also possible future social reality. Therefore, as mechanisms of observation, in addition to the senses of sight, hearing, smell, taste, and sensation, we have also included emotions, intuition, inspiration, and similar. One might object to the acceptance of this viewpoint, expressed in the work "Research of Political Phenomena" as early as 1980, but the argument that people cannot gain knowledge about something of which they have no observations or perceptions still holds true.

Observation unfolds in the following manner, in two possible situations: First, the observing subject has no prior knowledge about the object being observed-thus, for them, it's an entirely new phenomenon, or some direct or indirect manifestation of it. Second, the subject observes an object with which they have already had some experiences or information. This distinction is very significant for the subsequent process.

In the first case, the subject observes SOMETHING-which they cannot immediately define. Because of this, they form a CONCEPT of it and, based on what is already known, THINK about what was observed. Through thinking, they identify it relatively truly, accurately-but still only based on its immediate appearance. This is how initial definitions arise, or rather, the beginning of the defining process based on analogy with what is known. Hence the schema:

OBSERVATION → REPRESENTATION → THINKING[2)]

The process is similar in the second case as well. In the first moment of observation, we again have SOMETHING, but almost immediately after, we recognize it as THAT'S IT. We form a conception of it based on our experience and prior knowledge. Only through thinking do we identify and develop its definition. The schema:

OBSERVATION → REPRESENTATION → THINKING

still applies in this situation.

Both conception and thinking are understood as processes. The process of conception is essentially the linking of perceptions into a mental whole that becomes the subject of thinking. Thinking, on the other hand, is a conscious, rational, psychological, logical, and meaningful process through which knowledge is attained.

Thinking is a creative function and the core of cognition. Its specificity lies in understanding the subject of thought, and at its highest stage of development, also understanding the relationships between concepts and creating concepts "not only about what is observed and conceived, but also about imagined objects, such as, for example, mathematical objects like 'point' or a geometric 'line'… Human thought is specific intellectual creation, not merely a 'reflection of reality and consciousness.'" On the contrary, contemporary thought and spirit are "reflexively" reflected in reality, which is particularly evident in the construction of cybernetic machines as technical models of specific logical and mathematical operations.

The relationship between observation and conception, on one hand, and thinking, on the other, cannot be severed. However, within this relationship, they possess distinct qualities, orders, and functions. This can be expressed as follows:

(1) Thinking participates in observation.

(2) Thinking starts from direct observation, develops relatively independently, and then returns to observation.

(3) Observation directly depends on the senses (but not solely on them), while thinking does not depend on them. However, both thinking and observation depend on the brain.

(4) Both observation and thinking are biologically conditioned-observation more so and more directly.

(5) Observation and thinking are interdependent and represent a complex whole where observation builds the material basis for thinking, which is a higher quality of knowledge.

Thinking grasps the essence; it is active, it imagines, and it returns ("reflects") into social reality through models and objectification.

Logical thinking aims for true knowledge and unfolds according to the rules of a specific system of logic. Scientific, logical thinking is thinking about the subject and method of a particular science. Scientific logical thinking is object-oriented (it's what is being thought about). The subject of thought can be a specific social reality (material, immaterial, factual, or imagined)-that is, a reality of social existence that exists in some form, that existed, or that could exist (thinking across all three-time dimensions).

Thinking is a complex process of acquiring scientific knowledge, characterized by three essential properties:

1. *Developability of Thinking*

Thinking evolves from lower to higher levels. There are two primary ways it develops:

(a) Enrichment of the content of thought's subject: Expanding what thinking encompasses.

(b) Multiplication of forms and modalities of thinking: Diversifying the ways in which thinking occurs.

Thinking develops and progresses from being an immediate, integral part of reality to becoming autonomous. Autonomous thinking evolved into theoretical thinking, which subsequently reflects on the activity of society (within society) or precedes it.

2. *Creativity*

This refers to the creative power of thinking, realized through the analysis of current and past practices and the imagination of new practices. Specifically, creative and prognostic thinking changes existing practice and creates new practice.

3. *Systematization*

Systematization is a condition for creativity. The property of systematization ensures that thinking manifests the ability to discern: successful–unsuccessful, useful–useless, etc., and to carry out selection, classification, and evaluation of practice and its own properties.

Therefore, thinking is a creative-active understanding of objective reality: natural, social, biological, and conceptual. It is not merely a reflection of the object, nor a direct contemplation of the subject.

Logical thinking is well-founded and valuable thinking that proceeds according to established logical procedures, within valid logical forms, and with logically real objects, starting from the logical postulates of thinking.

The subject of thinking is:

(a) objective reality;

(b) perceptions or perceived objects;

(c) conceptions (reproduction of perceptions, memory conceptions, fantasies, psychological images of imagination);

(d) thoughts.

Thinking is based on observation as the foundation of sensory activity, and it enables the differentiation of what is observed, the comparison of knowledge gained through observation, the understanding of relationships, and the connection of diverse and distinct elements into a whole.

In this process, the application of analytical-synthetic (basic methods) logical thinking and scientific knowledge is unavoidable. Thinking continuously facilitates circulation along the relationships of: individual – particular – general; concrete – abstract; and intuitive to discursive thinking, which is higher and more independent.

Thinking is realized through the process of: observation – conception – thinking by means of signs, symbols, words, language, information, and communication. The fundamental forms of thinking are: concept, proposition, judgment, and conclusion-all while adhering to the laws of truthful thought. Thinking is particularly engaged in:

(a) Defining

(b) Stating/Concluding

(c) Proving and refuting theses (hypotheses).

2. Naming and Denotation

In practical, real-life situations, individuals interact with various things in different ways, particularly through communication. However, in human interaction concerning relationships with things and other subjects, various forms of symbolic communication are used.

Naming and denotation are crucial conditions for symbolic communication. There's a high degree of consensus in logic and methodology regarding the processes of naming and denotation.[3)]

2.1. Sign and Meaning

A sign and its meaning are essential components of the denotation process. Simply put, a sign is a specific object used in place of another object in communication between: A) a subject and a real object; B) two or more subjects.

The key characteristics of a sign are: A) a sign is always a sign of something-another object; B) a sign is always a sign for someone, meaning it must always have a specific meaning, and there must always be a conscious subject for whom that meaning exists-for whom the sign signifies something.

There are two main types of signs: natural and artificial.

Natural signs are called SIGNALS.[4)] They have a direct connection to the object, and any original meaning attributed to them is less inherent than with artificial signs. Originally, it is typically very associative. For example, smoke associates with fire; clouds with rain; thunder with wind, indicating a storm, and so on. Nevertheless, natural signs can also be used as artificial ones under certain circumstances. For instance, smoke can be used to send messages, or a lit fire to designate a meeting or landing spot for an aircraft. Additionally, the term "signal" is also used to denote certain human actions aimed at mutual communication. For example, communicating with flags, warnings by sound, etc.

Artificial signs are called SYMBOLS.[5)] People produce them with the intention of indicating something to others, sending a message, or marking something for themselves. Among such signs, the most common in the modern world are traffic signs, letters, words, emblems, rank insignia, flags, coats of arms, numerals, mathematical signs, and so on. They do not have an inherent, natural connection to the object; rather, various meanings can be assigned to them. The same artificial signs can have different meanings depending on the context in which they are used. For example, the numeral "1" can denote quantity, order, direction, gender, etc.

Artificial signs-symbols-are the basis for building language (both natural and artificial). Symbols are conventional signs; they stand in place of something else and do not causally produce what they symbolize. Each symbol contains a moment of concept and meaning without a direct connection or adequate relationship to the object; they are signs of the conventional substitution of objective reality.

Their common classification is based on: a) the subject area; b) their cognitive role. According to the subject area, we distinguish:

(1) Specific extra-linguistic symbols (colors, certain images, etc.)

(2) Artistic symbols

(3) Symbols of ordinary ("natural") languages

(4) Symbols of scientific languages

According to their epistemological function, we have three main types of symbols:

(1) Descriptive symbols: These designate objects of knowledge and their properties; they are primarily nouns (denotations) and adjectives (connotations).

(2) Explicative (explanatory) symbols: These explain relationships (e.g., "connection," "cause," etc.).

(3) Instrumental symbols: These are signs of mental operations (mathematical or logical operations like +, -, V, &).

A crucial condition for the existence of symbols and their role is the existence of concepts, which form their mental content.[6)]

We've established that every sign must have a *meaning* for at least one, and most often for multiple subjects. Meaning expresses a complex psychological, logical, and social connection between an object, a concept, a subject, and the object it stands for.

B. Šešić, in "Foundations of Logic," defines meaning as: "Meaning is a complex psychological process in which a specific object (Z), through a specific concept (P), points the subject (S) to a specific object (O)." This definition can be clearly illustrated by a traffic sign, for example, the sign for multiple sharp curves. With this sign, one subject communicates to all subjects who can read traffic signs that there is a multiple sharp curve on the road.

Meaning can also be understood as a complex of relations of a sign to: "the mental state it expresses (M); the object (O) it designates; other signs of a given system (S); and relevant practical operations (P)."[7)] The previous example also fits this understanding of meaning, as it implies the subject's awareness as a mental state, their relation to the object (a curve on the road), their relation to other (road) signs within the system, and their relation to relevant practical operations-behaving on the road in accordance with the warning contained in the sign.

Denotation performs two functions:

(1) It indicates which objects the sign can be applied to, i.e., which objects the given sign denotes.

(2) It indicates which properties of the objects the given sign describes, i.e., connotes.

In this sense, we can define denotation as the application of a sign to a given object, and connotation as the description of the properties of a certain type of object. Based on this, it can be determined whether a concrete, individual object can be classified into a certain type or given a specific name.

Denoting is the process of attributing a sign and meaning that we will use in relation to an object.

A symbol should have an objective meaning, and a subjective meaning is also possible.

Objective meaning refers to what is conceived and designated by means of a symbol. Therefore, these are the essential properties of the designated object.

Such meaning is intersubjective and communicable. In contrast to objective meaning, subjective meaning lacks intersubjectivity and, consequently, communicability.

Some authors also mention other types or components of overall meaning. For instance, Mihailo Marković (in Dialectical Theory of Meaning, 1994) lists mental meaning, object meaning, linguistic meaning, and practical meaning. He also refers to empirical meaning, associating it with original linguistic symbols, and general conceptual meaning, linking it to the emergence and role of conceptual thinking and the role of the concept itself.

For thinking about objects of thought, merely denoting or determining their meaning isn't enough. Naming is essential for this.

2.2. Naming Objects

The multitude of material, social, and spiritual factors in social reality that humans encountered daily in various ways couldn't be sufficiently distinguished by factual differences alone. Life in human communities necessitated mutual cooperation and communication. From these and other personal and social needs arose the practice of giving names-designations to various people, things, natural creations, etc. A name or designation of an object necessarily contains a complex concept and expresses certain properties of the object, its position, actions, and so on.

Names are *fundamental concepts* that carry specific basic meanings. For the names of the simplest tools, plants, animals, and actions, it can be assumed that they originated through association and transformed with the development of language (initially through onomatopoeia).

A name is formally the expression of a concept and a necessary basis for denotation.

3. Concept and Term[8)]

In the previous paragraphs, particularly when talking about names and naming, we've repeatedly mentioned the word concept, emphasizing its importance in both denotation and naming, as well as in thinking itself.

In logic, there are several opposing theories. Some deny the existence of the concept as a distinct form of thought, while others highlight its role, even asserting that the concept is the basis for negating the existence and role of judgment as a separate form.

However, in research and overall social practice, we cannot avoid using concepts, through which, by means of terms (words and other symbols), we designate objects and communicate meaningfully with each other. In this context, concept, term, and meaning are inseparable.

3.1. Definition of Concept

We will understand and define a concept as:[9)]

(1) An idea of an object of any kind-ranging from obvious natural and social objects to illusions and fantasies-which, by their very appearance, become specific social and psychological realities.

(2) A form of understanding the relationships of things that are merely imagined-for which sensory perception and representation are not necessarily required.

(3) The mental content of a term, or the content of a symbol used in denotation.

A more comprehensive definition of a concept could be: a concept is a complete idea of an object, formed by conceiving its essential characteristics, particularly through active understanding, intentional attention, and volitional effort.

Every concept is necessarily object-oriented-it refers to some object.

Based on the above, the concept is the essential content and the basis of meaning and sense, while the term is its external expression, a spoken symbol, and a representation.

At the core of a concept are relatively permanent things, primarily of a general nature. They are more lasting and simpler than the objects they denote. Concepts like class, family, democracy, and welfare are clear examples of this.

Every concept is simultaneously both concrete and abstract to a certain degree. Its abstractness is a result of deviating from the object it denotes, manifesting through the concept's simplification and generality.

The concreteness of a concept is its proximity or closeness to the object. The more completely, accurately, and precisely an object is expressed by a concept, the more concrete the concept. It's not required that a concept expresses all the details of the object it refers to, but only its fundamental and essential characteristics.

Every concept has its *extension* and its *intension*.[10)] The intension of a concept consists of the mental expressions of the characteristics of the object, which is a part or a specific phenomenon of objective reality (natural, psychological, social). It's the idea of the characteristics-the properties of the object. In the case of a complex object, it can be an entire system of mental characteristics of that object.

The characteristics of a concept can be:

(1) *Basic* (original, primary) and *derived*.

(2) *Essential* (substantive) and *non-essential* (accidental). Essential characteristics are those that concern the essence of the object, without which it cannot exist, or without which the concept cannot be conceived.

(3) *Constant* and *variable*.

(4) *Specific* and *common*.

(5) *General*, *particular*, and *individual*.

The extension of a concept is the scope of all concepts of objects to which the given concept refers. General concepts, which are the most comprehensive in extension, are *categorical concepts* that are simultaneously *essential*. Such concepts include GENUS, CLASS, SPECIES, etc.

The intension and extension of concepts are in the following relationships:

(1) The intension of a concept is its foundation, and its extension is based on the concept's intension;

(2) A general concept is broader in extension and encompasses more content.

(3) A higher concept arises from the generalization of characteristics, while a lower concept arises from its specification.

(4) A general and a particular concept are contained within each other already at their formation through generalization and specification.

(5) A general concept is, in its entirety, richer in content and broader in extension than a particular concept, which is merely its specified case or aspect.

(6) The extension of a concept increases with the increase in the differences of types and characteristics of its content, and decreases with their reduction.

(7) For homogeneous and individual concepts, increasing or decreasing the content does not change the concept's extension.

These concepts are simultaneously *subjective* and *objective* for people. Their subjectivity stems from the insufficient accuracy and incompleteness of the concept, which is a consequence of the inability to achieve a perfectly valid expression of the object through the concept. At the same time, the objectivity of a concept is the degree of its truthfulness and adequacy to the object it expresses. Scientific concepts are considered the most truthful.

A concept is simultaneously *static* and *dynamic*-changeable and developmental. It is static in the moment of unity and the establishment of a definite content. It is changeable and developmental through the changes and development of objects and their understanding.

Based on the aforementioned and other properties of concepts, we can note their diversity. They can be: general and particular, constant and developmental, concrete and abstract, substantive and formal.

The relationship between a concept and a judgment is very complex and, so far, insufficiently clarified in logic. This is compounded by the simplistic understanding that a concept is an idea of an object designated by a single word. This may predominantly apply to basic concepts, but not all of them. "Good person," "faithful wife," "happy child," etc., are also words that express certain concepts, but with two words, not one. The problem is as follows:

(1) Every concept consists of multiple judgments.

(2) Every judgment includes and is based on multiple concepts.

Thus, it appears that a concept is a synthesis of judgments, and a judgment is a synthesis of concepts. The problem and its resolution lie in their processualism and diversity. The judgments that continue the concept precede it and are not ready-made but emerging-just like the concept itself. In judging that does not exclusively or primarily concern the building of concepts, already formed concepts enter the judgment.

Even when forming a scientific definition, already formed concepts of known meaning are primarily used. In this sense, it can be said that a judgment is a thought about the connection-the relationship between objects or phenomena, and thus the concept is the basis and result of judging.

3.2. Types of Concepts

Social reality comprises a multitude of diverse objects with and about which society and individuals inevitably interact. This necessitates that all objects be denoted and named, and that an adequate concept and term must be formed for each. This is a crucial reason for the existence of many types of concepts.

The most commonly used criteria for classifying concepts are:

(1) The object of the concept

(2) The logical content of the concept

(3) The epistemological function of concepts[11)]

Based on the *object*, concepts are distinguished as:

1) Concepts of THINGS - PROCESSES: These are concepts of distinct, constant, particular parts of reality, both real and imagined. For example, these include concepts such as: table, chair, human, milk, car, computer, etc.

Among concepts of things, we distinguish the following types of concepts of things - processes:

(1) *Individual*

(2) *Collective*

(3) *Class*

(4) *Complex*: Under complex concepts, we envision concepts of intricate things composed of multiple factors, things, and processes. For instance, the Federation of Bosnia and Herzegovina, the UN, an auto repair shop, air transport, etc.

The constancy of concepts of things and processes is highly relative. The highest degree of constancy is found in terms, which are typically nouns and proper names, and for processes, verbal nouns.

The degree of constancy for concepts is lower, and it's lowest for the real objects that terms and concepts denote.

2) Qualitative concepts express the qualities of objects, typically using adjectives (e.g., green, white, good, brave, young). These concepts are essential for understanding all things, but they are not considered the "deepest." The reasoning often given is that they are explained by other concepts-such as quantitative, relational, or processual concepts. However, the idea that qualitative concepts are explained by other types of concepts seems difficult to accept. For example, quantitative concepts merely dimension, they don't explain. Furthermore, some concepts contain both qualitative and quantitative characteristics. We used the term "young." This concept is both qualitative and quantitative-it speaks to a special quality of

youth, but also to the fact that a young person has relatively few years of age. Without committing to the "deepest" designation, we consider qualitative concepts fundamental because all other mentioned concepts are connected to them and rely on them. Quantity is always a relation between something; processes are always a certain kind of process and processes of something.

3) Quantitative concepts are ideas of the quantitative characteristics of an object, such as one, a pair, several, often, rarely, little, much, etc. This category also includes all concepts of specific and general numbers and measures expressed using them.

4) Relational concepts are ideas of the relationships between any objects (real or imaginary) that express differences, similarities, equalities, oppositions, and contradictions, as well as spatial, temporal, causal, and functional relationships. This means these concepts express qualitative and quantitative differences, e.g., same, larger, opposite, before, after, above, below, older, etc. Some logical relational concepts, such as "and," "or," "if – then," etc., appear as logical functions and as functional concepts ("induction," "deduction," "judgment," "conclusion," etc.), and they express dependency relations between concepts.

Basic Types of Concepts by *logical content*:

1) General, particular, and individual concepts

The criterion for this classification is the *extension* of the concept.

A *general concept* refers to a single object. Within this classification, conceptual variables are also included. Their terms have variable meanings. Any general or class concept whose meaning can change falls into the category of conceptual variables, often denoted by letters such as x, y, z.

For example, the concept of "man" (čovjek) is a variable that can mean male, female, white person, Black person, etc. Variables can have greater or lesser generality, and in concrete thinking, each variable has its specific value.

The example above raises a question that isn't fully clarified: Is this truly about the variability of the concept of "man", or is it about an internal classification (subdivision) of varieties that constitute the content of the concept of "man"? The basis of this question lies in the fact that the fundamental meaning of the concept and the object it denotes *does not change*-it always refers to a human being possessing essential human characteristics.

Generally, the question of the variability of concepts is a specific logical issue, although it cannot be understood in the same way as variables in hypotheses.

This leads to the question: Are categorical concepts *species*, or are they genera and classes of concepts?

2) Abstract and Concrete Concepts

An *abstract concept* is relatively one-sided and non-objective; the more one-sided and non-objective a concept is, the more abstract it is.

A *concrete concept* is comprehensive and objective; the more comprehensive and objective a concept is, the more concrete it is.

3) Collective and Individual Concepts

A *collective concept* is the idea of a collective object (e.g., people, nation, family, flock, forest) that forms a single whole.

Individual concepts are ideas of individual objects. All individual objects are interconnected in various ways into different wholes, and thus individual concepts belong to various general concepts.

4) Correlative and Special Concepts

Correlative concepts are ideas of concepts that are dependent on another concept in a specific relationship, or in a relationship of mutual dependence, because one is a condition for the existence of the other. The concept of "above" cannot exist without the concept of "below"; the concept of "over" requires the concept of "under," and so on. Correlative concepts, by their content, are considered a type of relational concept, as implied by their name ("correlation").

Special concepts are ideas of objects that exist as relatively distinct, particular entities. However, the particularity of these concepts is only relative because every concept is a synthesis of numerous object-related characteristics. This allows, in a certain sense, for a correlative concept to be found for every concept.

Polarized concepts are ideas of objects that lie at the extreme opposite ends of a relationship. They form certain categorical concepts, such as, for example: identity - difference; cause - effect; one - many; content - form, etc.

Non-polarized concepts are all other concepts.

5) Categorical and Derived Concepts

Categorical concepts are ideas of the basic types of objects. These are general concepts such as: matter, movement, time, space, thing, quality, etc. Concepts we call categories, if they are true, must have some objective basis, and they express the mental representation of particular, fundamental, and essential aspects of objective reality.

The importance of categorical concepts (i.e., categories) in thought processes has led many philosophers and logicians (Plato, Aristotle, Kant, Hegel, Šešić, and others) to form their own "tables" or "systems" of categories.

In science and everyday language, many concepts of fundamental importance are in circulation, such as: essence, phenomenon, perception, content, form, thing, process, state, quality, quantity, relation, etc.

Basic Types of Concepts by Epistemological Function:

1) *Classificatory concepts* are ideas used to reveal the connections between classes and their elements, and simply classify them into genera, species, and subspecies.

2) *Comparative concepts* are ideas and understandings of relationships such as similarity, opposition, order, and degree of objects or their characteristics, such as: similar, same, different, opposite, more, less, etc.

3) *Typological concepts* are ideas for understanding the typical characteristics of a set or class of objects. For forming and understanding these concepts, it's essential to distinguish between the concepts of typical, type, class, and model.

4) *Functional-legal concepts* are ideas that express the essence of objects by conceiving the essential connections and relationships between objects or their characteristics. The cognitive role of these concepts is highly significant, with functional-genetic and causal concepts being particularly important. Functional-legal concepts include ideas such as: origination, disappearance, development, cause, effect, reason, etc.

Relationships Between Concepts

The fundamental relationships between concepts can be: (1) relationships of identical concepts and (2) relationships of concepts of various kinds (categories). Relationships between concepts of the same category can be: a) relationships of equality; b) relationships of superordination and subordination; c) relationships of coordination.

Relationships of coordination pertain to the relationship of the extension and intension of concepts within the same category. This is a situation where two or more concepts are subordinate to a single higher concept. For example, "man" and "animal" are coordinated by the concept of "living being."

In logic, there are five cases of coordination:

(1) Disjunctive coordination: When two concepts that differ in kind are contained within the same higher concept. For example, "voter" and "abstainer" are both holders of voting rights.

(2) Correlative coordination: Mutual interdependence of concepts. For example, "party" – "party member" – "party official."

(3) Contiguous coordination: Members of the same genus are adjacent to each other. For example, "basic party organization" – "local" – "municipal" – "city" – "state."

(4) Contrary coordination: The maximally extreme difference between members of the same higher concept. For example, employees in media:

(a) worked (was employed) at multiple media outlets;

(b) is not currently employed at any media outlet.

(5) Interferential coordination: Two concepts partially overlap in extension and intension. For example, "RTV director" – "RTV employee" – "active RTV employee"; or "political party president" – "political party member" – "politically active."

Relationships between concepts of different categories can be: a) relationships of mutual dependence and b) relationships of disparateness.

In thinking and research, concepts play a crucial role because they:

(1) Serve to acquire knowledge about individual groups, classes, and the essential properties of objects.

(2) Are the starting and concluding factors in the formation of scientific principles, axioms, and all scientific propositions, as well as a means of scientific explanation.

The process of scientific knowledge is essentially the continuous definition and redefinition of concepts.

3.3. Defining Concepts

Defining and redefining concepts are key and perpetually active processes and procedures in scientific understanding and creation.

There are many definitions of the term "definition." The most acceptable definition of "defining" and "definition" appears to be that advocated by S. Milosavljević, I. Radosavljević, and Dž. Termiz, which states: "Defining is the process of precise conceptual understanding of an object by means of concepts-judgments that grasp a particular object, its concept, and the term by which that concept is designated." This means a definition contains the following elements:

(A) The meaning of the concept and term.

(B) It is object-oriented in a dual sense:

(a) It speaks about the concept and the term.

(b) It speaks about the object designated by the term.

(C) It is a proposition or a judgment, or a system of propositions-judgments.

(D) In form, it is a nominal statement (a statement that can be true or false).

(E) The structure of a definition consists of what is being defined (definiendum) and that by which it is defined (definiens).

(F) It holds significant cognitive value.

The procedure of defining requires making fundamental, reasoned, and accurately interdependent judgments about the object being defined. A valid definition is one that meets the following conditions:

(1) It's a positive statement in the form of an assertion.

(2) It's object-oriented and substantive.

(3) It encompasses the entirety of the object, being comprehensive and impartial.

(4) It must be essential, such that the object being defined can be identified through its crucial characteristics and properties.

(5) The objects of definition are complex and evolving, so the definition itself must be complex and evolving, and should express this.

(6) It must be equivalent and accurate, meaning proportional and containing essential and necessary factors-characteristics that correspond to the characteristics of the actual reality.

Certain difficulties and many errors arise during the process of defining. Errors are deviations from any of the aforementioned properties, while three groups of difficulties can be identified in defining:

(1) Semantic difficulties – due to language and the use of ambiguous concepts (synonyms and homonyms), as well as context and the relative indefiniteness of the object.

(2) Logical-syntactic difficulties.

(3) Cognitive-operational difficulties.

In addition to possible errors in the defining process and the evident groups of difficulties, the following challenges are also certain:

(1) The most general and most individual concepts cannot be defined by characteristic definitions.

(2) Difficulties in defining complex as well as simple objects.

(3) It's almost impossible to validly define changeable objects.

In research practice, the most common types of definitions are:

(1) Nominal definitions, which deal with the characteristics of words.

(2) Real definitions, which deal with the characteristics of things and their properties.

Furthermore, we have:

(1) Descriptive definitions, which describe the object.

(2) Explicative (essential) definitions.

Among explicative definitions, the most important are:

(1) Characteristic definitions, which are derived from the characteristics of the nearest genus and a specific difference.

(2) Genetic definitions, which express genesis and development.

Of particular importance for scientific research are operational definitions, which function in terms of research procedures.

Besides those mentioned, other types of definitions exist, but they don't hold the same significance as the ones highlighted here.

4. Language, Information, and Communication

A crucial characteristic and structural component of human society is symbolic communication through language. Language fundamentally involves information and communication. It serves as both a tool for thinking and a means of expressing thoughts or intellectual creations, while simultaneously being a product of human society itself.

4.1. Language

The simplest definition of language is that it's a system of symbols, words, and linguistic expressions. This system is a human creation, and as such, it's an expression and factor of human development, cognition, and the advancement of societal practice.

The basis for the emergence and development of language lies in the needs for collective action and relationships within society. More simply put, its foundation is in the development of sociality and society itself. This underscores the necessity for language to be developmental and for every society, at a given level of achieved development, to build its own language.

The development of society, and changes in its structure, functions, relationships, and material and spiritual creations, continuously influence the development of language, acting in four directions.[12)]

Firstly, some words and linguistic expressions disappear because the objects (things, etc.) they referred to cease to exist. However, the survival of words and linguistic expressions doesn't necessarily coincide with the lifespan of the objects they express. As a rule, they last longer than the objects, especially in science.

Secondly, some words and linguistic expressions transform, changing their form and meaning to adapt to new social situations.

Thirdly, with the emergence of new social constructs, new words and linguistic expressions are created to denote these new creations.[13)]

Fourthly, adaptations in the use of words appear, adjusting to newly formed social situations and new contexts.

Nevertheless, some fundamental, basic words and linguistic expressions persist long-term or permanently.

1) The Basic Structure of Language[14)]

The elementary components of language are words. These form (are used to create) meaningful combinations that carry specific meanings, known as *linguistic expressions*. Only in exceptional cases can linguistic expressions be mechanical creations.

The study of language structure can be approached from various perspectives (e.g., grammatical, orthographic, semantic, etc.). However, for methodology, it's crucial to primarily study and understand the logical structure of words. This structure is made up of the concept and the term. The concept is the content and meaning of the word, while the term is its external expression. Concepts and terms are in a relationship of interdependence. In principle, a specific term expresses a specific meaning-a concept. In this regard, there are no problems as long as one term expresses one word that conveys one concept and one meaning. Difficulties arise only with the appearance of compound words (two or more words that had independent meaning combined into a single word that gains a new meaning), multiple words forming a single term that expresses a specific concept, or when so-called "barbarisms" appear.

Weber uses the term "goal-rational behavior" to express behavior aimed at achieving a goal, where the goal is reasonably defined and the behavior is (at least by intention) consistent with the process of achieving that goal. In doing so, he connects two words and two concepts, forming a new complex concept and term.

The way Weber did this raises the question of the boundary between terms formed by combinations of words and linguistic expressions.

In the second case, the question arises regarding the relationship between the words that form a term, as in all such cases, one of the words is dominant. Let's look at the following two terms: "political behavior" and "good behavior." In both instances, the basic concept is "behavior," but that doesn't mean the word "behavior" is the determining factor. In the first example, the word "political" is determining because it speaks to a specific social phenomenon of which political behavior is a component. In the second example, behavior, of any kind, is evaluated as "good" from a certain perspective.

The third case involves incorporating words from foreign languages into an already established language. As a rule, an introduced foreign word does not retain its completely original form but is "assimilated" into the language it's introduced into, or it retains its original form (e.g., "screwdriver"). It's a serious question whether it's always possible to validly express the original concept and original meaning. One only needs to consider the term "scientism" to grasp the difficulties.

The structure of language also includes various types of languages: natural, scientific, artificial, object, and metalanguage. These are integral parts of the general language structure, so language can also be considered classifiable into natural and the other listed languages.

Natural language is another name for the ordinary, everyday language that members of a society use to communicate with each other. It emerged during the development of society, from its daily needs, partly spontaneously, partly organically. It's a language whose beginnings can be traced to gestures and onomatopoeic speech, with its development based on the growth and multiplication of knowledge and the evolving need for new insights and their practical application.

A key characteristic of natural language is its intersubjective intelligibility. Various members of society attribute the same meanings to certain terms and, through them, to concepts. This further demands a certain degree of linguistic precision so that the meaning of terms and language can be understood and grasped.

Two significant factors impede the desired precision of language:

- unequal developmental processes of various societies in the same and different time periods,
- the existence of multiple subjects of thought within one and in various societies.

Various societies, throughout their existence and development, influenced by various factors, have formed their own languages to express that development. This practically means that these languages don't emerge simultaneously, and each language has its own words-terms-to express these concepts. Over time, some societies transform, and some even disappear, while new societies emerge. Thus, with the disappearance of some societies, their languages also vanish. For other societies that have disappeared or fundamentally transformed, their languages cease to be living languages but continue to exist as languages of specific strata, professions, as technical and scientific languages, etc. Latin is a good example of this. All of this affects the precision of language.

The more dynamic and diverse the development of a society, the more objects appear, necessitating an increasing number of concepts and terms, and more names. As a rule, the number of objects in society is greater than the number of specific words used to denote them. This has led to the subsumption of multiple names under the same object. *Homonyms* (one name, multiple objects) and *synonyms* (one object, multiple names) have emerged.

All of this significantly reduces the intelligibility and precision of language. The consequence is four basic situations in language use. The first most desirable situation is the same thought expressed with the same terms and concepts. The second most desirable situation is the same thought expressed using various terms. The third one is different thoughts expressed using the same terms and the fourth one is different thoughts expressed using various terms and concepts.

The metaphorical nature of language can also contribute to imprecision, although in certain situations, metaphors are used to facilitate the understanding of essence.

Natural language is the foundation of all other languages. It's governed by specific rules, guidelines for its use, and definitions of meaning. This enables its high capacity for concrete expression, description, and definition.

Scientific language differs from natural language by a significantly higher degree of precision, clarity, and specialization for a particular scientific field, science, and scientific discipline. There is no single, general scientific language usable across all sciences. On the contrary, each science and scientific discipline has its own specific language. The same terms may be used in various sciences, but they express different concepts and in different meanings.

The greatest linguistic differences exist between the natural and social sciences. In the social sciences, certain concepts and terms are used with the same meaning across all social sciences and disciplines (e.g., the term and concept of society, human, labor, reason, will, goal, need, etc.). However, there are also identical terms with completely opposite meanings-for example, "rationalization," which in economic and political sciences means introducing more reason and knowledge into organization and behavior, but in psychology means the exact opposite: self-deception.

The language of science consists of:

(1) Phrases: basic grammatical expressions with specific meanings.

The basic phrases are:

a) Names, whose meanings are specific objects.

b) Adjectives, whose meanings are properties of objects.

c) Functors, which are open phrases.

d) Connectives (or conjunctions), which also appear as constants.

(2) Basic linguistic expressions (basic in a narrower sense).

(3) Sentences, which are linguistic statements of logical propositions (including judgments and conclusions).[15)]

a) Names: whose meanings are specific objects.

b) Adjectives: whose meanings are properties of objects.

c) Functors: open phrases.

d) Conjunctions: which also appear as constants.

Artificial languages are primarily and predominantly a form of scientific language, although not exclusively so. Artificial languages are constructed with a defined intention, for specific purposes, using meanings and symbols, i.e., terms and designations that they will employ.

In science, two main types of scientific artificial languages are known. Science developed the first type for its own purposes in the pursuit of greater precision. Words are replaced by artificial symbols that can mean anything and can only be understood within a well-known context. For example, the Latin letter "a" can mean a general number, a position in a sequence, a specific predefined expression, etc. The second type of language comprises machine languages (computers).

Scientists attribute various emphasized positive qualities to artificial languages, such as economy, accuracy, and precision. Modern computers enhance the advantages of artificial languages. However, artificial languages are not equally suitable or effective in all sciences. For instance, in mathematics, physics, etc., artificial languages are almost indispensable. However, in the social sciences, their capabilities are limited, and their role is auxiliary. Nevertheless, even there, they contribute to precision and deepening of knowledge, especially in quantitative and statistical research.

Still, natural language is the foundation of scientific artificial languages because concepts and meanings must first be defined and identified within it.

Artificial languages can also be specialized languages. For instance, Morse code isn't a scientific language, but it's a specialized language due to its system of special characters. The same applies to various cipher systems, and so on.

Another criterion for classifying languages is their subject matter. This distinguishes between ordinary (object-language) and metalanguage.

The subject of object-language involves various elements of social reality (different objects and subjects) that societal members name, define, and communicate about. For example, the statement: "Society is complex" belongs to object-language. Here, the subject of the statement is society with its properties, as a part of social reality.

The subject of metalanguage is language itself-words and linguistic expressions, including word notations (like letters and their usage). So, the statement: "Society'' is a word made up of seven letters" falls under metalanguage because its subject is the composition of a word. However, language itself is a reality within social existence. Therefore, when researching language, it cannot be considered exclusively a metalanguage. Generally speaking, the prefix "meta" doesn't entirely rule out the possibility that a particular subject of thought and study also possesses characteristics of an "object-language."

4.2. Information and Communication

Information and communication are at the heart of the mechanisms that enable sociality and community within society.[16)]

Language is a key foundation for information and communication in society for at least two reasons: First, language is a critical tool for thinking, and therefore for forming data and notifications. Second, it is an essential instrument for sending and receiving information, as well as for reacting to it.

Information and *informing* are defined in various ways. The biggest differences lie in the understanding of information and informing as a one-way process between an information source (any event, machine, living being, or human subject) acting as a transmitter and a receiver of information. According to this view, the receiver of information doesn't need to respond. Furthermore, in the process of informing, it is enough for just one conscious subject to self-inform from a source and in a way that they choose, and to react to the received information as they see fit. In essence, this understanding is correct despite the existence of diverse information systems. The presence of computers, media, and functional systems of signs does not change this core principle.

A second viewpoint equates information and informing with communication and communicating.

It's reasonable to take the position that informing is the process of transmitting and receiving a notification where a return response isn't required. Thus, the structure of the process can be schematically shown as:

A) Source of information → B) Transmitted notification (in any way) → C) Receiver of the notification (a conscious being) → D) Relationship to the information (selective)

Communication and communicating, unlike the previous, have a different structure, and necessarily involve at least two conscious subjects. The structure of communicating and communication can be shown (in a simplified way) as:

A) Sender of the message (a conscious being) → B) The formed message that is being transmitted → C) Method and means of transmitting the message (direct verbal or written address to a subject or subjects-via technical means and media, etc.) → D) Receiver of the message (a conscious subject whose response is expected) → E) The receiver's response to the sender's message → F) Reception of the response to the originally transmitted message.

Authors who equate informing and communicating use two arguments: a) in all cases there is a notification; b) the response to a message doesn't have to be exclusively a statement (language), but can also be behavior. Both remarks are relatively accurate, but they don't disprove the position on the difference between informing and communicating. These remarks overlook that every signal (e.g., smoke) isn't simultaneously a substantive and articulated message, nor is the recipient of the message predetermined, nor is there an articulated expectation of a response. There's a huge difference between simply "taking note" and a general expectation that a notification will be considered in future behavior, versus understanding the essence and content of a message as a demand for an articulated response.

In everyday human interaction, people intuitively make a clear distinction between informing and communicating.[17)] They receive and react to notifications in one way when they are general and neutral, addressed to unidentified recipients. For example, in country "X," in place "Y," a temperature of -45 degrees Celsius was measured. People react differently to that than they do to the message: "Citizens of Sarajevo must reduce electricity consumption by 10% to avoid forced reductions," or "All healthy citizens, capable of donating blood, can report on__________ [date], at ______________ [location] from __________ [time] to __________ [time], to donate blood needed for an emergency surgery."

A key feature of communication remains the participation of at least two subjects in the process of exchanging messages.

5. Logical Variables and Constants

Through an analysis of linguistic expressions and statements, we can see that some words have a variability of meaning. Despite their general conceptual definition, which remains, various specific versions of their meaning appear. Such words and linguistic expressions with variable meanings are called variables.

At the same time, we observe that linguistic statements and expressions also contain words with a constant meaning. These words are called constants. They connect variables into meaningful wholes and are contained within logical propositional functions.

The subject of variables consists of objective, socially real objects (past, current, or possible future ones), whether factual or ideal. The purpose of constants is to point to and designate specific relationships.

Modern logic and methodology examine two types of variables:

(1) *Concept variables* and (2) *Propositional variables.*

(1) *Concept variables* include general concepts (since all concepts, including particular and individual ones, contain a degree of generality), class concepts, and so on. Their content can be changed through specification or concretization. For example, the general (class) concept of democracy. As a subject of thought and expression, democracy can be "classical," "slave-owning," "parliamentary," "multi-party," etc.

(2) *Propositional variables* are classes of statements or propositions whose content is changeable. Within propositional variables, we distinguish between independent and dependent variables.

If the path of human cognition moved from observation, through conception (which is essentially the linking of perceptions into a mental whole that is the subject of thought) and thinking (which we understand as the creative function and core of cognition), from concrete to abstract, then the moments of variability were built into general concepts through individual ones. Therefore, it is justified to ask whether we are talking about the variability of the meaning of general concepts-words and general propositions, or simply about their content and form.

Variables are denoted by lowercase Latin letters:

(1) Concept variables: x, y, z, etc.

(2) Propositional variables (variables of propositional meaning, primarily in symbolic logic): p, q, r.

(1) Concepts - variables are general, class concepts whose general meanings are concretized and thereby changed without being lost. For example, the general concept of state is concretized as "USA," "Great Britain," "Germany," etc., or specified as "monarchy," "republic," "federation," "confederation," etc. In concrete thinking, each concept variable has its own conceptual value. The value of higher-level variables can also be variables, but of a higher order. This is clearly seen in the relationship between concepts: profession (or occupation) as a general concept, and student as the content of the general concept in the capacity of a variable whose content can be changed by specification or concretization: student of political science, student of the first, second, or third cycle of study.

(2) Propositional variables (also called propositional variables) are more complex and are denoted by p, q, r. These are variable-classes of statements within which conceptual variables are connected and which can appear in various modalities of connection or combination.

Propositional variables play a significant role in the foundations of symbolic logic-in propositional calculus or sentential calculus.

There are three known models for connecting variables in variable propositions:

The Sequential Model: This model involves a series of at least two variables. If there are more than two, the first is independent of all subsequent variables. The second is dependent on the first but independent of all subsequent ones. The third is dependent on the first and second but independent of all subsequent ones, and so on. The final variable in the sequence is dependent on all preceding variables.

The Causal Model: This model expresses cause-and-effect relationships. The cause is the independent variable, and the effect is the dependent variable. Beyond the basic cause-and-effect relationship, a more flexible interpretation of this model allows for a variant based on conditioning and mutual conditioning.

The Time-Series Model: In this model, connections between variables are based on precedence and succession, though on different grounds. The first variable is independent of all subsequent ones, the second is dependent on the first but independent of all subsequent ones, and the last one is dependent on all preceding variables. A certain similarity between the first and third models can be observed.

These models of variable connection are also applied in scientific research, with certain adaptations that require the assignment of appropriate roles to variables in hypotheses. According to the role of variables in hypotheses, we distinguish between independent variables, denoted by x, and dependent variables, denoted by y. The role of the independent variable, which typically appears at the beginning of a hypothesis (on the left in European languages and scripts), is to show the cause, reason, or motivation for the dependent variable and to describe it. Thus, the dependent variable shows the effects of the independent variable's action. It's important to note that in social research, independent and dependent variables can swap places.

Variables attract more attention from methodologists, especially those in the special social sciences, and are linked to hypotheses, object-oriented thinking, and object-language.

In contrast to variables, constants attract more attention from philosophers and logicians. This focus is understandable given that constants are "the most abstract categories of modern logic" and are defined as "concepts of constant meanings" based on their role in propositional statements and artificial languages.

As words, constants serve as logical connections, denoting general, realistically possible relationships between events and facts. Their objective meanings are, above all, the structural elements of the facts themselves-general types of relationships among the facts. The objective meaning of constants is tied to the truthfulness of a sentence.

The reason for the problems in understanding constants and logical constants is that they belong to the most abstract categories of modern logic. Many logicians consider them to be a priori conventions, functions, incomplete symbols, etc., because they do not contain direct objective experience and can be defined by concepts that lack empirical elements. However, the concepts of constants become understandable only when they are connected to concepts based on experience.

In symbolic logic, there are three types of constants:

(1) Individual constants: These include symbols or concepts that denote individuals (things or people). They are marked with a, b, c, etc., and include the names of people, rivers, cities, mountains, and other proper nouns.

(2) These are words, symbols, and concepts that denote constant logical connections: "and," "or," "if-then," etc.

(3) These are predicate constants: concepts-terms that express constant properties or characteristics of certain objects and are marked with f, g, h, etc.

In thinking and language-especially scientific language-various models for combining variables and constants are formed:

(1) The Predicate Statement Model: This is created by combining an individual variable (x, y, z) and a predicate constant. An object (individual variable) has certain properties. For example, "The state is a political entity" is expressed with the signs "xf" ("x" denotes the individual variable "state," and "f" denotes "political entity").

(2) The Individual and Predicate Constant Model: An individual constant has certain properties, so this model is formed by combining an individual constant and a predicate constant. For example, "Sarajevo is a large city" ("af").

(3) The Propositional Variable and Logical Constant Model: This is a model in which propositional variables (concepts) are connected by logical constants, yielding the basic logical (propositional) functions.

6. Logical Propositional Functions

Logical propositional functions represent the combination of propositional variables and logical constants, expressing constant, fundamental relationships. Logicians list seven such functions, although there have been attempts to reduce them to a single function.

The logical propositional functions are: negation, conjunction, alternation, disjunction, incompatibility, implication, and equivalence.

(1) Negation is the only single-member function. It means "not-p" or "non-p," and is symbolized as "~p" or "p." In a sentence, it expresses an objective opposition between an explicitly mentioned object, which in a given situation or relationship is not a real given, and an implicitly given real object that remains more or less undefined. Negation appears in descriptive sentences, and if applicable, it can also appear in explicative and instrumental sentences.

(2) Conjunction speaks to the simultaneous existence of two different phenomena. It corresponds to the logical constant "and" and expresses the interweaving of opposites. It's symbolized as "p x q."

For example: "Elections are taking place and there is criticism of the electoral process."

(3) Alternation means the non-exclusion of "or" by truth. This means that at least one of the two propositions must be true, but it's also possible for both to be true. In everyday language, the word "or" is used with a threefold meaning:

(3.1) Alternation: It means that at least one of the constituents of the complex proposition is true;

(3.2) Complementarity: This means that at least one of the constituents of the complex proposition is true, and the other proposition may also be true.

(3.3) Mutual exclusion: This means that only one constituent (proposition) is true, and the other constituent must be false.

It's clear that the third meaning of alternation represents an exclusive viewpoint, which, unlike the previous two (which are inclusive), contradicts the definition of a non-exclusive "or."

(4) Disjunction means the exclusion of opposites by truth, which implies that at least one of the two propositions must be false. The factual meaning of disjunction is identical to the use of "or" in ordinary speech. Disjunction is denoted with "p/q" and the relationship is expressed as "p or q."

(5) Incompatibility means intolerance for both truthfulness and falseness. Proposition "q" is contradictory to proposition "p" and is denoted with "p – q."

In the logical propositional functions of alternation, disjunction, and incompatibility, we observe the various possible meanings of the logical constant "or."

(6) Implication expresses "if – then," thereby conveying a possible conditionality of opposites. The implied connection is a potentially given form (structure) of conditionality that, in some cases, is also a real given within the structure of the facts themselves.

(7) Equivalence expresses truth-value equality, meaning that two propositions are identical in value.

The Truth-Value of Logical Functions in Bivalent Logic

Logical functions are the basic combinations of two propositions and their truthfulness within a given combination. Logical variables and logical constants are the fundamental elements of logical functions and propositional calculus, as well as the formulas used in logical calculus.

The logical functions can have (truth) values (in bivalent logic):

1. Negation:
   (1) If a positive proposition is true, its negation is false.
   (2) If the negation of a proposition is true, then its own negation is false.
   (3) A double negation is equal to an affirmation.
2. Conjunction:
   (1) Conjunction is true only if both of its elementary propositions are true.
   (2) If at least one member is false, the entire conjunction is false. That is, it's impossible for either proposition to be false.
3. Alternation:

(1) Alternation is true if at least one of its elementary propositions is true.

(2) If both elementary propositions are false, the alternation is false.

4. Disjunction:

(1) At least one of the elementary propositions must be false.

(2) It is impossible for both elementary propositions to be true. In that case, the disjunction is false.

5. Incompatibility:

(1) The elementary propositions must be opposite in their value: one true, the other false.

(2) It is impossible for both elementary propositions to be equal in value. Incompatibility is false in that case.

6. Implication:

(1) Implication is true if either the implicans (p) is false or the implicat (q) is true.

(2) Implication is false only if the implicans (p) is true and the implicat (q) is false.

7. Equivalence:

(1) Equivalence is true if both elementary propositions are true or both are false.

(2) Equivalence is false if one proposition is true and the other is false.

Based on these principles, or the values of logical functions, truth tables are formed.

Logical functions have a very great significance in thinking and in the formulation and expression of propositions and judgments. Their role is also large in political language and speech, where implication is most often preferred.

7. Logical Valences and Rules of True Thinking

7.1. Rules of True Thinking

The fundamental characteristic of science is the process of acquiring scientific truth about people, society, and its environment. Truth has been a subject of consideration, from ancient times to the present day, by many great thinkers, primarily philosophers. Thus, we encounter definitions of truth given by Plato, Aristotle, the ancient empiricists-sophists, etc.

Leibniz, as a faithful representative of bourgeois philosophy, laid the groundwork for considering the problem of truth in all its complexity, breadth, and depth. Philosophical movements from his time onward developed many theories of truth: rationalist, empiricist, metaphysical-theological, idealist-absolutist, epistemological-relativist, pragmatic, semantic, realistic, vulgar-materialistic, concrete-dialectical, etc., which attempted to define the concept of truth from various starting points and in various ways. At the end of the philosophers' search for the concept of truth, we find that there is no universally accepted definition of truth; furthermore, there are no universally accepted postulates for a meaningful search for truth. If this is the case-if we don't know what truth is, if we acquire it "intuitively" without a specific human awareness of truth-questions arise: How are we to search for it, and can we even acquire it through scientific activity? If we cannot acquire truth even through science, is science possible at all, and is it necessary for human society? Is science true or is it a delusion?

Truth is indeed primarily a philosophical problem, and as such, it is not the subject of our discussion.

In establishing the relationship between science and truth, we start from the premise, proven by factual reality, that the acquisition of truth has occurred throughout all phases of human and social evolution, including the pre-scientific phase. In that phase, a body of relatively enduringly valid and long-term applicable knowledge was created, along with a body of knowledge about the methods of acquiring knowledge. Science and scientific knowledge differ significantly from other types of knowledge (non-scientific knowledge) in the way it is acquired-it is gained through the application of scientific methods of knowledge.

Truth is a problem of logic and methodology, and therefore it is a subject of consideration in terms of the possibility of acquiring truth through scientific, logical thinking and the general synthetic method of science-scientific research.

Therefore, keeping in mind that we are dealing with the problems of scientific methodology in this work, we will offer a working definition of truth from the perspective of methodology. It states: "Truth is human knowledge about the subjects of thought and scientific research that objectively understands and comprehends those subjects as they truly are" (Termiz & Milosavljević, 1999, p. 97).

The foundation and justification of the proposed definition are based on the following arguments:

(1) Human knowledge, thinking, and scientific research are an integral part of human practice.

(2) Truth is the content and quality of people's consciousness; as such, it exists only for them and is their product.

(3) Truth is objective; therefore, it is intersubjective.

(4) The path to truth is: experience, thought, and practice.

(5) The truthfulness of thought and knowledge can be verified in various ways.

The aforementioned and other arguments point to the view that, based on current scientific knowledge, knowledge of logic and methodology, it is possible to establish certain rules about the procedures of true thinking, the application of which leads us to true knowledge. In this sense, we are primarily concerned with scientific truth.

Logic has formulated the basic laws of true thinking, understanding them as an objective categorical relationship that constitutes the essence of a specific group of objects or phenomena (their emergence, occurrence, existence, development). This is a general, necessary proposition that is objective in relation to a particular field of phenomena or objects, i.e., a proposition that is valid for every object or phenomenon in that field.

Every law is a mental expression in the form of a proposition about a specific objective categorical relationship.

A meritorious discussion of the rules-laws of true thinking is not possible without at least a preliminary descriptive definition of the concept of truth.

7.1.1. Laws of True Thinking

According to Šešić (1974, p. 91): "The laws of true thinking are, from an objective perspective, objective categorical relationships that constitute the essence of logical processes and forms of thinking as a true understanding of objects. From a subjective-cognitive perspective, the laws of thinking are fundamental general propositions that are objective in relation to the entire field of true knowledge."

There are two basic types of laws of true thinking:

1. Laws of the fundamental characteristics of true thinking, which are more general.

2. Laws of the true conception of objects, which are more specific.

1. Laws of the Fundamental Characteristics of True Thinking deal with the properties of true thinking and are:

1.1. The Law of Objectivity

1.2. The Law of Content

1.3. The Law of Definiteness

1.4. The Law of Logical Grounding

1.5. The Law of Logical Coherence

1.6. The Law of Relative Constancy and Development (Šešić, 1974, pp. 92-131).

(1.1) The Law of Objectivity of True Thinking

The Law of Objectivity of true thinking demands that thinking about any object (an object of perception, ideal, or even non-existent ones) be objective in a twofold sense: (a) it must be directed at an object, and (b) it must conceive that object as it actually is. Object-oriented thinking is not inherently true. It can be wrong, but objectless thinking is not possible because there is no thinking that doesn't have an object, even when a subject claims to be thinking of "nothing." It is precisely this "nothing" that is the object of thought. Therefore, thought is always object-oriented and it refers to and/or can refer to itself, its surroundings, real, factual objects, abstract objects, or objects that do not yet exist.

Objectivity is just one of several properties, connected with others like content and definiteness, that together enable the achievement of truth.

(1.2) The Law of Content of True Thinking

This law requires that thinking be substantive in such a way that the content of a concept, proposition, judgment, or conclusion corresponds to the content of the object of thought. Thinking expresses its content in two ways:

a) Thinking has its own content, as it cannot be without substance.

b) The content of thought is adequate to the content of the object of thought.

However, thinking is fully realized only in relation to individual factors and aspects of an object, not necessarily to its entirety.

(1.3) The Law of Definiteness of True Thinking

This law demands definiteness of thinking in a twofold sense:

a) The definiteness relies on the definiteness of objective reality.

b) The definiteness is both subjective-conceptual and verbal-expressive.

Thus, true thinking is objectively and subjectively definite.

(1.4) The Law of Grounding of True Thinking

The law of grounding of true thinking requires that a concept, judgment, conclusion, or theory be based on appropriate reasons, not arbitrary. The reasons or arguments on which the truth of a thought is based are:

a) Facts from direct experience.

b) Facts established through social practice.

c) Facts established through scientific methods (scientific facts).

d) Axioms of a relevant theory or doctrine.

There are three basic forms and degrees of grounding true thinking:

(1) Citing certain reasons in favor of the true thought.

(2) A rigorous scientific-methodological justification of the proven truth of the thought.

(3) The verification of the true thought in social practice.

(1.5) The Law of Logical Coherence of True Thinking

This law implies three fundamental forms of coherence:

(1) Simple coherence of thoughts-concepts and judgments with each other.

(2) Logical consistency-which implies a logically harmonious connection of thoughts with each other.

(3) Systematicity of thinking-which means a complete, well-ordered, and logically consistent mental picture or system of propositions.

(1.6) The Law of Constancy and Development of True Thinking

This law requires the fulfillment of at least two basic demands:

a) first, the relative constancy of the object and the knowledge about that object.

b) second, changes in the object and the knowledge about the object based on new factors and properties of the object, as well as on new knowledge about the object.

Here's the English translation of the provided text, broken down for clarity.

7.1.2. Laws of the True Conception of Objects

A second type of law of true thinking is the laws of the true conception of objects. There are many of these laws, and while they are more specific, they are more difficult to understand and more complex to apply because they are neither purely ontological nor purely epistemological.

Due to the difficulties and complexities of applying the laws of the true conception of objects, in the practice of thought and scientific research, we primarily rely on the laws of true thinking. These laws constitute the essence of logical processes and forms of thought that ensure a true understanding of objects, and as fundamental general propositions, they are objective in relation to the entire domain of true thinking.

Therefore, we will only list the laws of the true conception of objects (Termiz & Milosavljević, 1999), which are divided into:

(1) General laws of the true conception of objects, which can be concisely formulated as: True thinking is objective because it conceives of objects as they are.

(2) Specific laws of the true conception of objects:

2.1) The Law of Unity

2.2) The Law of Identity

2.3) The Law of Diversity

2.4) The Law of Contradiction and Non-Contradiction

2.5) The Law of Constancy and Development of the Objects of Thought

7.2. Logical Values (Valences)

In science, there are multiple approaches and systems of logic. A key basis for this division is the modalities of truth and truth valences, which express the essence of logic by containing certain key properties of logical axioms and logical axiomatics as the core of a logical system.

Based on logical valences (which we understand and define as the cognitive values of propositions and judgments of knowledge), we distinguish between bivalent, trivalent, and polyvalent logic.

The basic characteristics of bivalent logic, considered to be elementary-formal, are that it only recognizes two truth valences: truth and falsehood, or more accurately, simple truth and simple falsehood. Accordingly, bivalent logic is based on the essential principles of elementary thinking found in simple affirmation ("is," "yes") and simple negation ("is not," "no").

To this day, most logicians still firmly adhere to elementary-formal bivalent logic, even though Aristotle, who formulated the principle of "being-to be one" (the principle of simple identity), discovered that just two valences were insufficient. This is particularly evident when considering the future, where multiple possibilities exist. Thus, Aristotle allowed for possibilities: that something might be and that something might not be, that a sick person might recover and that a sick person might not recover.

In this way, several logicians criticized bivalent logic, including N. Kuzanas, V. Wrug, A. Majnong, and Hegel, among others.

The critique of the inadequacy of bivalent logic, whose shortcomings could be recognized in practical life at a certain level of social development, led to the formation of trivalent logic.

In 1920, Jan Łukasiewicz, starting from the principles of modal logic and varying possibilities and impossibilities, contingency and necessity, established the basic valences of trivalent logic: true, false, and possible. The essence of Łukasiewicz's trivalent logic was the introduction of a third cognitive valence-"possible"-which expanded the subject area of traditional bivalent logic.

This required establishing new meanings for logical functions (negation, as the only single-member logical function, and implication), as well as logical sum and logical product. The principle of non-contradiction and the principle of excluded middle then ceased to be absolutely and universally valid. From that point on, bivalent logic was treated as a special case of trivalent logic.

Trivalent logic paved the way for polyvalent logic. As early as 1922, J. Łukasiewicz established the foundations of polyvalent logic, and Reichenbach, Carnap, and others also worked on it. The transition to polyvalent logic was not simple because numerous questions arose, starting with the understanding of truth and the truthful, the relationship to elementary bivalent logic, and the relationship of the modes of truth valences, etc.

In the process of developing polyvalent logic, the logic of probability played a significant role. Probability was understood as the frequency of cases in a series of events. It was expressed quantitatively as a combination of truth modes through specific tables, which affirmed implication and other logical functions and showed that bivalent logic could not be adequately applied to many subjects of thought, especially those related to the future. Unfortunately, polyvalent logic did not resolve the fundamental question of the relationship between truth and probability. The view that necessary, complete truth or complete falsehood are only extreme cases of probability proved to be untenable.

If we analyze the forms of knowledge in science (social sciences), we discover that they all take the form of propositions (judgments, conclusions) that constitute a specific system. Similarly, we will discover that the truthfulness of some propositions is indeterminate, some are possible, others probable, some certain, and still others necessary. Based on the foregoing, we will state that these are the modes and basic types of truth and that they simultaneously express a certain truth value of the propositions.

Based on this knowledge, we can more precisely define the aforementioned modes or valences.

- Propositions of *indeterminate truthfulness* are those for whose truthfulness we cannot cite sufficiently valid and strong reasons.
- Propositions of *possible truthfulness* are those for whose truthfulness we can cite certain reasons, but those reasons are not sufficient or valid enough for this knowledge to be probable.
- *Probable propositio*ns are those for whose truthfulness we can cite sufficiently valid and strong reasons. The probability of the truthfulness of these propositions is not based on quantitative randomness, but on the knowledge of regularities, laws, etc.
- *Certain propositions* are those for which all reasons point to their certain truthfulness, as is the case with factual knowledge.
- *Necessary propositions* are propositions of the highest quality of knowledge-of unchangeable truthfulness-and they arise from inevitably given assumptions.

Here, we have identified four positively defined truth propositions and one indeterminate proposition, and thus we can also determine four negatively defined propositions. These are: possible falsehood, probable falsehood, certain falsehood, and necessary falsehood. When determining falsehood (the modality of falsehood) of propositions, a key criterion is the reasons, or the absence of sufficiently valid reasons. If we arrange the mentioned truth modes to obtain four positive truth modes (possible, probable, certain, and necessary truth), in the middle the indeterminacy of truth, and four modes of falsehood (possible, probable, certain, and necessary falsehood), then we have formed a nine-valent logical system.

The listed modes of truth are not the only forms of the "existence" of truth. According to the criterion of completeness, there are also partial and complete truth or falsehood. At the same time, the modes of truthfulness and falsehood can be combined with each other, for example, a combination of: probable, complex partial truthfulness, probable simple partial truthfulness, and so on.

The presented nine-valent logical system corresponds not only to the demands of true scientific and logical thinking but also to logical thinking and spoken (ordinary or natural) language in everyday human and social communication (Termiz & Milosavljević, 1999, pp. 102-105).

1. Šešić, Bogdan: *Foundations of Logic*, Naučna knjiga, Belgrade, 1983.
2. (1) Ibid., pp. 24-26, 16.
   (2) Petronijević, Branislav: *Foundations of Logic*, Štamparija Davidović, Belgrade, 1932, pp. 9-10.
3. Marković, Mihailo: *Dialectical Theory of Meaning*, pp. 243-247.
4. Šešić, Bogdan: *Foundations of Methodology of Social Sciences*, p. 17.
5. Šešić, Bogdan: *Foundations of Logic*, p. 30.
6. Ristić, Živan: *On Research, Method, and Knowledge*, pp. 43-44.
7. (1) Ibid., pp. 28, 29.
   (2) Marković, Mihailo: *Dialectical Theory of Meaning*, pp. 502-510.
8. Šešić, Bogdan: *Foundations of Logic*, p. 132.
9. Petronijević, Branislav: *Foundations of Logic*, pp. 36, 38, 42.
10. Ristić, Živan: *On Research, Method, and Knowledge*, p. 53.
11. Šešić, Bogdan: *Foundations of Logic*, pp. 159-175.
12. (1) Milosavljević, Slavomir - Radosavljević, Ivan: *Foundations of Methodology of Political Sciences*, pp. 166-169.
    (2) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, pp. 112-115.
13. (1) Šešić, Bogdan: *Foundations of Logic,* p. 31.
    (2) Marković, Mihailo: *Dialectical Theory of Meaning*, pp. 141, 146, 419-443, 493-501.
    (3) Ristić, Živan: *On Research, Method, and Knowledge*, pp. 44-45.
14. Šešić, Bogdan: *Foundations of Logic*, pp. 22-23.
15. Ibid., pp. 31, 46-47.
16. (1) Šešić, Bogdan: *Foundations of Logic*, pp. 42-46.
    (2) Šešić, Bogdan: *Foundations of Methodology of Social Sciences*, pp. 25-27.
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IV - BASIC FORMS AND PROCEDURES OF SCIENTIFIC KNOWLEDGE

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In the previous chapter, we outlined the initial and basic procedures of knowledge in general and mentioned the essential characteristics of scientific knowledge. We emphasized that scientific knowledge is primarily acquired through scientific research using appropriate scientific methods. However, some methods are fundamental to any logical and meaningful thought and knowledge, including scientific knowledge. As scientific methods for acquiring knowledge, they are strictly defined and governed by rules for their use and procedural application.

1. Basic Methods of Logical and Scientific Knowledge

We define the basic methods of logical and scientific thought and knowledge as those that are primary and are embedded as an essential foundation in all other methods. They may not all be applied to the same extent or in the same way in every process of scientific inquiry, but, as a rule, none can be bypassed in scientific research. The basic scientific methods include: analysis, synthesis, abstraction, concretization, specialization (specification), generalization, induction, and deduction.

There is no consensus among methodologists on the understanding of these basic methods of scientific knowledge. First, a large number of authors in the field of methodology do not define or discuss the problems of basic methods. Even authors who explicitly address these methods don't use the same names for them or describe and structure them in the same way. For example, B. Šešić uses two names for these methods: "basic" and "special," and then derives a third, "basic special methods." Additionally, in his discussion, he uses the terms "method" and "methodological procedure." Furthermore, these methods are sometimes treated as a single "analytical-synthetic method," sometimes as methods and methodological procedures, and sometimes as only methodological procedures. In this regard, the most definite definitions and consistent treatment are found in two books published in 1999 and 2000.

One book is "*Uvod u metodologiju politikologije*" (Introduction to the Methodology of Politicology) by Termiz, Dž. - Milosavljević, S. (Sarajevo, 1999), and the other is "*Osnovi metodologije političkih nauka*" (Foundations of Methodology of Political Sciences) by Milosavljević, S. - Radosavljević, I. (Belgrade, 2000). In them, these methods are defined as basic-embedded in the foundations of all other methods of scientific knowledge; as methods by concept and procedure, but without their own techniques for obtaining empirical data. Furthermore, each of the mentioned methods is viewed and presented with arguments as a method in its own right.

In this work, we also view and treat each of these methods as a separate basic method. However, we observe these methods in a specific order and a specific system of relationships.[1)]

Traditionally, basic methods are discussed in pairs: analysis - synthesis; abstraction - concretization, etc. This is not purposeful, as this approach relies on the same (complex) subject and the polar positions of these methods. However, any deeper dive into the subject matter will reveal more productive insights. Thus, it is obvious that by the similarity of internal procedures and steps, we must distinguish between *analytical* methods (which are related to and essentially rely on analysis) and *synthetic* methods (which are related to and rely on synthesis).

We include the following in analytical methods: (1) analysis, as primary and fundamental for the other analytical methods, which is realized through mental and physical decomposition; (2) abstraction, which is realized through isolation; (3) specialization (specification), which is realized through separation (division); and (4) deduction, which is realized through derivation.

Synthetic methods have a procedural direction opposite to that of analytical methods. Synthetic methods are: (1) synthesis, which is realized through combination, composition; (2) concretization, which is realized through attribution; (3) generalization, which is realized through universalization; and (4) induction, which is realized by connecting individual elements (through generalization and conceptualization).

1.1. Analysis

Analysis is the first and most fundamental method in the process of scientific knowledge. In terms of the position and order of scientific knowledge, only analogy is its equal. Analysis and analogy are applied simultaneously in scientific research and thought processes, because the decomposition of any whole into parts implies the identification of both differences and similarities.

The subject of analysis is a complex whole, either real or conceptual, whose parts, factors, moments, characteristics, etc., can be identified and discovered. Analysis reveals the composition and structure of the whole (system), relationships, connections, various properties, the roles and functions of the factors in the existence of the whole, and the place and importance of various factors within the whole.

Analysis can be conducted through mental and physical decomposition. In the social sciences, mental decomposition is common (through procedures of conceiving parts as distinct and/or separate). In some natural sciences, physical decomposition is necessary and essential.

There are two opposing approaches to understanding analysis. One views analysis as a severing of the relationship between the whole and the parts; the other forbids the severing of the relationship between the parts and the decomposed whole. The conflict between these two approaches (formal-logical and dialectical) is meaningful in the theory of logic but is more or less irrelevant in research practice. No scientific researcher investigating the structure and composition of society, human behavior, the functioning of a community, etc., can isolate any class, stratum, community, or institution from the society in which it existed or now exists. It can only be understood in its social context. The so-called "severing of ties with the whole," and therefore with all other parts, is only conditional and relative.

The usual classification of analyses is based on three main criteria: (1) procedure; (2) affiliation with a logical direction; and (3) subject.

We applied the first criterion by distinguishing between *mental* and *physical* analysis. The second criterion allows for the distinction between *formal-logical* and *dialectical* analysis. We also partially implied the third criterion because, by differentiating between mental and physical analysis, we made a division into: a) subjects belonging to the *natural* sciences and those belonging to the *social* sciences, and b) subjects that can only be subjected to mental analysis and those that can be subjected to physical analysis. However, mental analysis is also carried out when physical analysis is essential. Mental analysis factually precedes physical analysis, is performed simultaneously with it, and accompanies it.

During the previous discussion, we stated that the basic methods of scientific knowledge do not have their own techniques for data collection.

However, as one of the most widespread methods of data collection, CONTENT ANALYSIS OF DOCUMENTS introduces a certain reservation to this first statement. Specifically, documents and the propositions within them appear as subjects of mental analysis. This method has its own two techniques (qualitative and quantitative analysis) and its own instruments (forms, codes, tables, etc.). This raises the question of whether it's possible to understand the method of document content analysis as a method for data collection through analysis.[2)]

1.2. Abstraction

Abstraction is the process of isolating what is general and essentially common from what is particular and individual, or isolating what is particular-which contains what is essentially common-from what is individual, and which, formed as a particularity, differs by some characteristics from the general. The particular must be recognizable within the general to be isolated, but the individual is the basis for deriving the particular and the general.

Therefore, we can speak of two flows of abstraction:

a) The first flow is the formation of a general concept (e.g., human) by abstracting the characteristics of the particular and retaining only the common characteristics (e.g., isolating the general, common characteristics of a person while disregarding their specific and concrete characteristics of gender, age, height, weight, health status, etc.).

b) The second flow is where the particular can be isolated from the general by retaining the essential characteristics of the general-but within it, acknowledging the differences within the general. Thus, from the general concept of "people," it is possible to abstract the particular concepts of men (or women), old people, healthy people, etc., precisely by considering the characteristics of gender, age, or health.

Formal logicians and dialecticians disagree on the abstraction of the particular from the general. In formal logic, abstraction is the isolation of the general from the particular. It's true that a key characteristic of abstraction is a certain degree of generality. The procedural steps for abstracting the general from the particular are clear and definite. In contrast, when abstracting the particular from the general, we also find elements of the procedures of classification and concretization (division of the general, or the addition of characteristics).

The premise that the general is contained within the particular and individual, just as the individual and particular are contained within the general, is fundamentally correct. The general is simply the highest degree of abstraction, formed by isolating and disregarding characteristics that are essential to the particular. This general concept does not contain all the characteristics of the particular and concrete-individual.

Abstraction is a method by its conception and conceptual procedure. In science and scientific knowledge, it is of great importance precisely because science and scientific research are concerned with the general, not the individual-concrete.

1.3. Specialization

The process of specialization occurs by dividing (partitioning) a single entity into its factors, properties, and so on, based on a specific criterion-that is, a defined characteristic of difference within a single whole (a single concept). The more general the concept, the greater the possibilities for differences, and thus the greater the possibilities and needs for specialization.

There are two standard procedures for specialization: (1) dichotomy and (2) classification.

Dichotomy is the procedure of dividing a single concept into two parts: one positive and one negative. For example: successful – unsuccessful; driver – non-driver; clumsy – skillful; engaged – unengaged; honest – dishonest, or worker – non-worker, etc. These examples show that: a) dichotomy is widespread in social communication and can be applied to all types of words (concepts); b) the negative concept (member of the dichotomy) is based on the logical function of negation; c) the positive member is definite (it states what something is), while the negative member is indefinite (it states what it is not, but not what it is); d) the negative member can have various direct and figurative meanings (e.g., the concept of "non-human" can mean that it is not a human being, but it can also mean a negative qualification of a person's behavior).

Dialecticians have sharply criticized the shortcomings of formal-logical dichotomy, especially the existence of a negative member, which we have already pointed out. They insisted on a dichotomy composed exclusively of positive members (e.g., good – bad, hardworking – lazy, etc.). However, their insistence was not fruitful because both in everyday human interaction and in science, it is necessary to distinguish between those who possess a certain factor or characteristic, or have or do not have a certain relationship, which must be expressed in some way. For example, "married – unmarried" cannot be expressed without using the logical function of negation, which no logic, not even dialectical, has abandoned.

Classification is the procedure of dividing a single whole (concept) into multiple members based on a pre-defined criterion that simultaneously expresses the belonging of all members to a specific whole being classified, as well as the specificity of their characteristics. Classification is carried out according to the strict rules of logic, methodology, and scientific research. In this regard, every classification must meet certain requirements. Among them, the essential ones are:

1. The same criterion of division must be applied to all members of the classification.
2. All members of the classification must express their belonging to the specific whole that is being divided by the classification.
3. Each member of the classification must clearly express its specificity and difference from other members.
4. The classification should be complete, meaning it should encompass all relevant members.
5. The classification should be meaningful and productive, meaning it is part of and an instrument for broader and deeper knowledge. Therefore, classification is not approached arbitrarily but functionally. In this sense, it is very much connected with analysis.
6. A key property of classification is its economy. This is the requirement that it is neither too narrow nor too broad, meaning that it does not lead to the inability to encompass and form all relevant members, or that it leads to the formation of superfluous members, to a so-called "crushing" of the cognitive matter.

Classification is also viewed as a form of initial measurement (as a transition from nominal to ordinal). This requires that the members in the classification be placed at the same conceptual-logical distance. In research practice, this is relatively difficult to achieve, except in classifications whose orders are based on a quantitative criterion.

There are other rules, which we consider less important though still useful, that we won't list here.

In scientific research practice, classifications are formed in two ways. The first is division, which we've discussed so far. The second way is summarization. The specificity of creating a classification through summarization is that there doesn't have to be a pre-established concept being divided. While its existence is not a hindrance and can even be helpful, it's not a prerequisite.

When the scientific goal is a scientific discovery, it's possible that the basic concept has not yet been formed. The process then unfolds as follows: research discovers certain factors, properties, relationships, etc., which are then identified and defined. Next, similarities, differences, their places, roles, and functions within the discovered system are established. Based on this, their belonging to genera, classes, etc., is determined, and certain more general and general concepts are formed, all the way to categorical concepts. The discovered realities, having received their conceptual definitions, are sorted into related and functional groups, and this is how classifications are created. In essence, these classifications represent the establishment of meaningful orders.

The procedure is somewhat simpler in situations where a basic concept and a defined classification criterion already exist. In this case, the discovered realities are introduced into a specific classification according to that criterion.

By their composition, we also distinguish two types of classification: 1. "*division*" and 2. "*participation*."

"*Division*" requires that all members of the classification share one common-the same-characteristic. For example, everyone included in a classification based on the criterion of belonging to a specific social group must have two key properties: first, the same classification criterion must be applied to all of them in the same way. Let's take the concept *workers* whose factors need to be classified. We use *educational attainment* as the criterion. In this way, only workers with a certain recognized formal educational background can be included in the classification, while others are left out.

With "*participation*," things are a bit different. It doesn't forbid, but also doesn't require, the possession of an identical property as a condition for inclusion in the classification. According to it, we could include all workers in the classification, even those without an educational background and the illiterate.

Participation is a more frequently used type of classification because it is often very difficult to predict all relevant members, and because of the economy of classification. In research, both in instruments and during data processing and use, we often encounter the category "miscellaneous."

It is also necessary to answer the question of whether classification can be done only mentally or physically. In practice, we encounter physical sorting based on certain properties (e.g., in the army by height, by order in a line, etc.), but these are also accompanied by or preceded by mental classification. Therefore, we believe that the procedure of classification is primarily a mental one.

1.4. Deduction

Deduction is primarily a method of inference. In essence, it is the method of drawing conclusions from one or more premises, or deriving propositions from one (more general) or two or more propositions.

It is common to distinguish between direct (immediate) and indirect (mediated) deduction. Immediate deduction involves deriving a new proposition from a single premise, while indirect deduction involves deriving a new proposition from two or more propositions.

In connection with deduction, three essential questions arise: First, does the newly derived proposition necessarily need to be examined, since it was reached through an analytical procedure? Second, what is the relationship and what are the properties of the premises and the new proposition? Third, what is the relationship between deduction and induction?

To the first question, we would offer this answer: "If the premise, or if the premises, are true and if the procedure of deduction is validly applied TO AN APPROPRIATE PROPOSITION ABOUT AN APPROPRIATE OBJECT, the newly derived proposition (conclusion) is necessarily true-because it was derived analytically. More precisely, it necessarily follows from the premises." An answer formulated in this way requires the fulfillment of at least two preconditions: 1. that the premises are truly true-proven; 2. that the subject of the proposition is such that a truly true, and not just probable, proposition can be formed about it. This greatly narrows the possibilities of deduction and refutes the idea that a new proposition-the conclusion-necessarily follows from the premises. In this regard, we note that the view holds that knowledge in the social sciences is only probable (to varying degrees), and that their propositions, especially if they are prognostic, cannot be proven, but only confirmed. Let's add that in truth calculus, according to the valid formula for implication, a true proposition can be reached even if one of the premises is false. Let's also add that B. Šešić, in his discussion of nine-valent logic, says that necessity is the highest degree of truthfulness, but also that even the highest degree of probability cannot be equated with truthfulness. Thus, in the social sciences, deduction is productive if the premises have axiomatic and causal validity and are based on scientific explanation. It provides propositions of the highest degree of probability. In this, the application of deduction in the social sciences differs from its application in the natural sciences.

We have largely answered the second question within the framework of the first question. However, the question of the properties of the premises-their truthfulness, not probability-and the way a new proposition is derived from (based on) the premises and its properties, and their mutual relationships, are permanently open questions.

And the third question: the relationship between deduction and induction, is only partially clear. Where did the premises for deduction come from? Is their origin inductive? If so, how can they overcome the property of probability and become completely true? Is deduction still deduction when the derivation of a new proposition is approached with more than two premises? Namely, induction by definition implies the derivation of a new (more general) proposition from multiple (many) individual premises, which raises the question of the demarcation between induction and deduction.

Deductive inference will be discussed in the section on inference.

1.5. Synthesis

Synthesis is the most typical of the so-called synthetic methods. More or less directly, all of them (concretization, generalization, and induction) rely on the procedure of combining-assembling factors of a lesser or greater degree of concreteness into a complex whole. Therefore, synthesis and analysis have a common subject of research, but their approaches and procedures are in opposite directions. Analysis understands the whole by taking it apart-through its parts and factors, properties, etc. In contrast, synthesis understands the whole by combining factors and parts into a whole, and through that, it also understands them, their properties, and their relationships with and within the whole.

Two types of synthesis are known: a) *reproductive* and b) *productive*. Reproductive synthesis is simply the joining of factors-parts-into a whole that has, presumably, been subjected to prior analysis. Productive synthesis is creative: it not only discovers already known connections and relationships but also reveals the potential possibilities of the whole, its factors, and its parts.

Synthesis is possible as both *mental* and *physical*. For the social sciences, as a method of scientific knowledge, priority belongs to mental synthesis. However, in social practice, specific physical syntheses are very common-more precisely, integrations into certain social groups or institutions (e.g., marriage, school, a peer group, church, etc.). This is similar to analysis. It is important to point out here that synthesis does not negate the elementary properties even when something is "synthesized" into a whole (e.g., in an institution where one is employed), which is quite different from synthesis in the natural sciences, such as in chemistry.

Synthesis is not an arbitrary process. You can't just combine anything with anything. Only factors and parts that form a meaningful whole can be joined. In connection with this, the question of contradictory factors arises. When analysis has also revealed contradictory factors, synthesis will treat them depending on the goals of the synthesis. If the synthesis is purely reproductive, there is no deviation from the composition and properties of the analyzed whole. However, if the goal of the synthesis is to form experimental models, then the synthesis will deal with the contradictory factor according to the needs of that model.

In this sense, synthesis is more productive than analysis, but it is also very much connected with and conditioned by analysis. In social practice, productive syntheses are more common than reproductive ones, simply because people are social beings and human society, for as long as we have known it, has been organized in some way.

1.6. Concretization

This synthetic method is based on a procedure opposite to abstraction. It implies a movement of thought and knowledge from the general to the particular and individual, from the abstract to the concrete. This movement involves adding characteristics to the general abstract and the particular abstract that leads to the concept's approximation of the concrete. For example, we take the abstract general concept of WORKER. To this concept, we add the characteristic "manual," then to the concept of "manual worker," we add the characteristic "construction," and further, "unqualified," "male gender," etc., until we reach a level where we add the place of residence, the company where they work, and other personal characteristics that can even identify a specific worker. Dialecticians understood concretization in a similar way but stopped at the level of the particular. However, the very name "concretization" shows that it is a process of mental movement from the abstract to the concrete by adding certain characteristics.

The act of adding characteristics methodologically distinguishes concretization from the seemingly similar analytical methods of analysis and specification.

A key problem with applying concretization in research is twofold: a) the difficulty of identifying the characteristics that should be added to the general or particular if these characteristics are not already known (from the time of abstraction); b) the difficulty of establishing the order in which these characteristics should be added. A rule that can be adopted is a sequence that begins with more general characteristics and ends with the most specific set of characteristics.

1.7. Generalization

Although generalization is among the exceptionally important methods due to its role in the constitution of the statistical-general scientific method, some questions are still tacitly or openly unresolved. For example, its procedure of generalizing propositions and forming general propositions based on individual ones is not sufficiently explained. In the literature, we find explanations that this is achieved through conceptualization and induction. But what is conceptualization, and how does it happen? It seems to happen by grasping the general, common characteristics in the individual and concrete, in individual propositions. But this also presupposes the ability to isolate the general about these propositions-in other words, the ability to ABSTRACT PROPOSITIONS.

It is also not entirely clear how induction, which happens by connecting what is common and identical into a whole that is found in the individual-a particular procedure-actually works. We will discuss this more in the next section on induction.

In short, generalization is the method of forming general propositions (more accurately, the generalization of propositions) through individual propositions or more directly through conceptualization, the grasping of the general.

Scientific research distinguishes between two types of generalization. First, there is generalization in general. Second is so-called statistical generalization, which is used to understand and express an average (statistical) generality. Statistical generalization is based on induction and could, conditionally, be called inductive generalization. The results of empirical and other individual studies would not be possible without generalization, which in research practice occurs in multiple stages and at multiple levels. The first stage of generalization happens at the very formulation of the topic and the design of the research. The second occurs during the organization of data, as the basis for drawing conclusions, and in the process of concluding based on the data. The third stage takes place during the formation of mid-range theories, that is, the formation of theoretical propositions by generalizing the propositions from individual studies.

We note that the generalization procedure can lead to universal propositions, but that generalized propositions, especially those of statistical generalization, do not have the value of absolute universal truth. Instead, they are propositions of a certain degree of probability.

1.8. Induction

Induction is one of the methods that has been the subject of very lively debates and challenges. Views on it are so contradictory that some authors deny it any cognitive value, while others have attributed to it the value of being the foundation of all knowledge-even a necessary method for investigating causes.

Induction is a method for acquiring knowledge of the general (deriving new general propositions) by connecting individual elements (individual propositions). It is an inevitable, fundamental method for researching mass phenomena and all research where individual data about individuals are collected. Since the individual-concrete is at the core of everything general in society, we can consider induction to be a fundamental and necessary method of scientific knowledge. Among other things, it is the basis of generalization and, both directly and indirectly, the foundation for the postulates and premises (including axioms) from which deductive inference proceeds. Induction is also the basis for the proto-method of trial and error and for proving and refuting arguments.

A major criticism of induction is that it is not analytical, and thus the conclusions from its premises do not necessarily follow. Therefore, these conclusions are only probable. It is enough for just one counterexample to arise to an inductive conclusion for its truthfulness to be challenged.

However valid this criticism may be based on correct premises, it suffers from significant shortcomings. Two are crucial in the study of social phenomena. The first is the failure to recognize that every conclusion about the present is only temporarily true, limited in time by the laws of change, development, and historicity. It sounds paradoxical when we say that the only constant is change itself.

This definition also applies to natural phenomena; otherwise, the development and changes of natural phenomena could not be explained, just as the development of science could not be explained.

The second oversight concerns the existence of two types of induction: a) complete and b) incomplete, between which there are significant differences.

Complete induction requires knowledge of all members of a set (and therefore applies only to a finite set) and the derivation of a general proposition based on all propositions about each individual member. By enumerating and including all members of the set, reliable knowledge is reached-but with a reminder of the time-limited validity of all knowledge due to the changeability of both social phenomena and the knowledge about them. This, of course, does not challenge the validity of some "eternal" truths such as: "all people are mortal," "every social community consists of individual people," etc., although new scientific knowledge (e.g., cloning) places demands for renewed research with a modified approach.

A significant number of authors-logicians dispute whether complete induction is induction at all. However, the way new propositions are derived does not justify classifying complete induction as something else-for example, as deduction. The crucial criterion for distinguishing induction and deduction, which can be understood as the boundary number of premises for induction (the minimum number of premises-set members for induction) and the maximum number of premises that deduction can have, has not been defined.

The main criticism about the non-analytical nature and unreliability, or probability, of an inductive conclusion refers to incomplete induction.

Incomplete induction concludes about all instances of a class, which can be finite or infinite, based on one or a certain number of known instances.

Research in the social sciences, especially empirical research, is limited by space and time, and thus effectively relates to sets with a limited number of members. By their aspirations, philosophy, sociology, and psychology (if we classify it as a social science) stand out, as they are focused on knowledge about generally valid social regularities and laws, that is, on sets with an unlimited number of instances.

Several types of incomplete induction are known. They include:

1. *Direct, immediate, incomplete induction*. It concludes from a certain number of known individual cases or instances to the entire class or population. This conclusion is a relatively general and relevant conclusion.

2. *Predictive or typical incomplete induction*. A conclusion is drawn about an unknown part of an object or phenomenon of a class or population based on a known part of that class.

3. *Inductive inference by analogy*. Here, a more general or a general conclusion is drawn about an object based on the similarities between members of a class of phenomena or parts of a class.

4. *Universal incomplete induction*. This type of induction forms a universal hypothetical conclusion about all members of a class, the entire class, and the population, by deriving it from a certain incomplete number of individual cases or an incomplete number of premises.

The conclusions of incomplete induction are not sufficiently certain or reliable, because the discovery of a single case, regardless of the number of positive cases, overthrows the truthfulness of the conclusion. Induction, especially induction by simple enumeration, does not allow for a universally reliable conclusion. However, a relatively reliable conclusion can be achieved under certain conditions, particularly with statistical induction. Statistical induction is a variant of direct incomplete induction.

The specific requirements that induction must fulfill to achieve relative reliability of conclusions are:

1. It is necessary to acquire knowledge about a certain general property of a finite and completely known number of objects or their characteristics.
2. Knowledge of the unlimited general is possible if the factors that constitute it differ very little or if they can be encompassed by a single principle.
3. A valid inductive conclusion can be drawn even when the characteristics on which the inductive conclusion is based are essential.

Statistical induction significantly expands the possibilities of both induction and the reliability of inductive conclusions. It acquires knowledge about the quantitative characteristics of certain qualities through numerical data. This leads to certain orders of original inductive propositions that express the probable frequency and prevalence of a property, characteristic, or relationship. This is the basis for discovering the probability of average generality. Average generality expresses certain statistical regularities and statistical laws of events, as well as the degree of probability of deviation from the rules and laws. The principles of relative uniformity and regularity in society are the basis of the prognostic power of this type of induction.

The validity of inductive conclusions is significantly influenced by: the number and diversity of instances (premises) on which the inductive conclusion is based; the properties of the instances (data-premises); and their valid treatment. In this regard, it can be said that an inductive conclusion is more reliable the greater the number of examples on which it is based, the more proportionally they are distributed in space and time, the more they express essential and important characteristics, and the more systematically and objectively the relationships and connections between them are observed and determined. This enables the formation of statistical laws.

Although induction has been widely debated, these discussions have been primarily conducted from the perspectives of philosophy, epistemology, and logic. Studies of induction from the perspective of the needs of the social sciences have not been specifically carried out. For this reason, there is insufficient adequate knowledge about it in the social sciences.

Let's start with the meaning of the method's name itself, "induction." Induction could be understood as the process and effect of inducing. And what is inducing? In its basic meaning, it is the causing of something by influencing something else. In this case, a multitude of individual propositions, perceptions, and observations about certain manifestations of reality act as a cause for a new phenomenon-a new proposition. People and their communities, human society, are a relatively stable, historical, and empirically very complex phenomenon that necessarily requires: a) certain common human traits; b) a multitude of differences between the individuals who make up communities and a multitude of differences between individual, disparate communities. Based on research experience and an understanding of Merton's views on generalization, we are free to put forward the hypothetical claim that, among other things, the subject of research has a very strong influence on the properties of induction as a method. To questions about prevalence, rarity, commonality, etc., induction provides true, time- and space-specific answers in the social sciences. Exceptions and deviations in statements, "as a rule," do not invalidate induction, because the very nature of the subject of research implies particularities.

Let's add that incomplete induction forms the basis for drawing conclusions based on samples.

2. Statement, Proposition, Judgment, and Conclusion[3)]

2.1. Statement

In a broad sense, the general concept of a statement is very comprehensive. It refers to any manifestation of feelings, sensations, perceptions, thoughts, etc., regardless of their content, form, degree of meaningfulness, or meaning. Therefore, a statement can be a gesture, facial expression, act, action, image, photograph, saying, term, linguistic expression, word, building, monument, statue, park, and so on. We do not, however, include works created by natural laws as statements. But if works of nature are protected, supported, or enhanced by deliberate human activity, then these creations, in the parts where human involvement is evident, are also considered statements (Termiz & Milosavljević, 2008, p. 45).

In a narrow sense, a statement is a specific form of linguistic and symbolic expression of thoughts-propositions, judgments, and conclusions. Therefore, a statement represents the universal form and means of human communication and interaction within existing linguistic systems.

Key characteristics of a statement, as mentioned above, are:

(1) A statement is, by content, a meaningful collection of words and/or symbols.

(2) A statement is nominal (it can be true or false).

(3) By cognitive value, a statement can have the properties of a proposition, judgment, or conclusion.

(4) The most common form of a statement is a sentence.

For a combination of symbols, words, or words and symbols to be considered a statement, it must be object-oriented, meaning it must refer to any factual or ideal object. A key property of a statement is a certain degree of its communicability.

The essential elements of a statement's structure are terms or concepts, and the connection between them, the meaning of the statement, its form, its truthfulness, and its sense. A meaningless combination of words and/or symbols lacks objectivity and meaning and cannot be considered a statement.

We can distinguish between statements based on several criteria. We can classify statements by:

(1) *Intent*:

a) Intentional statements: These are statements a subject has formed and manifested in front of other subjects with the intention of communicating something to them.

b) Accidental statements: These are statements a subject has formed without the intention of communicating anything to anyone, but are exclusively directed at themselves and their need for self-expression. For example, entries in a personal diary, or exclamations like "ouch," "ugh," etc.

c) Forced statements: These are statements made under a demand, pressure, threat, or coercive measures, as well as those given at the request of other subjects but without the clear characteristics of forced ones. These are functional, official statements, some of which are a condition for acquiring certain rights or social benefits, and some for fulfilling professional duties, civic rights, and so on. This classification can be supplemented with two more members:

d) Professional or business statements that, by their content and function, represent the fulfillment of official, professional, and business obligations.

e) Official statements that are required by the norms of specific regulations, rules of good behavior, customs, or a certain system of orientational values.

(2) *Degree of truthfulness*: ranging from true to false. From the perspective (criterion) of completeness of truth, there is:

(1) partial and

(2) complete truth or falsehood.

Based on the above, we can speak of complete, predominant, partial truthfulness, or complete, predominant, partial falsehood, and indeterminate truthfulness.

(3) *Meaningfulness*: The statement's meaning can be definite, indefinite in time (which we can neither accept nor deny), and meaningless.

The diversity of subjects and contents of statements implies various ways of determining a statement's meaningfulness, with two dominant approaches. The first is to determine the meaningfulness, truthfulness, and meaning of the statement within the specific subject areas of a science, using the methods of that science. The second procedure is to determine the statement's logicality.

(4) By *form*, statements can be:

a) assertions,

b) denials,

c) questions,

d) commands;

(5) By *complexity*, statements consist of:

a) one word-"It's raining," "It's snowing," "Take it," "Good," etc.;

b) multiple words or sentences-"Finish the job," "Accept the candidacy," "We will win the elections," and similar.

(6) *By combination, statements can be combinations of:*

a) words only,

b) symbols only,

c) words and symbols;

(7) *By form or method of communication:*

a) verbal (spoken or written in a specific language),

b) visual (various types of recordings, artistic visual works, as well as traffic signs, etc., can be classified as standardized creations, etc.),

c) material creations.

(8) *By belonging to linguistic systems*:

a) statements of scientific languages,

b) statements of ordinary spoken languages, and can also be distinguished as statements of:

a) object-language and

b) formalized languages.

The distinctions mentioned are important because the standardization and definiteness of statements are significantly greater in scientific and symbolic formalized languages. The best examples illustrating this are definitions and formulas (Termiz & Milosavljević, 1999, pp. 115-116).

Authors of logic textbooks and manuals, with minor deviations, cite the concept, proposition, and judgment as the basic forms of logical and scientific thought. Without negating these logical propositions, we have, by observing their role in scientific research, added that they are also the basic forms of scientific knowledge. We find the justification for this in the fact that the conceptualization and definition of a concept, the act of making a judgment, and/or drawing a conclusion must be understood as a process-a conceptual (and often sensory) creative engagement-while the concept, proposition, judgment, and conclusion are the products of these processes. Thus, they are not only forms of thought but also forms of knowledge.

Propositions, as forms of knowledge, are at the beginning of every research project. They play the role of a foundation and a product-creations in the research process, which is itself a complex, systematic process of defining, forming concepts and propositions, judging, and concluding, as well as expressing them.

We discussed the problem of concepts and their definitions in the previous chapter, so we'll begin our discussion here by addressing propositions.

2.2. Proposition

The shortest and broadest definition of a proposition is: a proposition is a meaningful statement with a certain postulated cognitive value; it is any statement by which something is affirmed, denied, assumed, or allowed to be true or false.

By examining this definition, we see that a proposition is a statement. However, its specificity isn't that it's a statement, since both a judgment and a conclusion are also statements. Its specificity also isn't that it's a meaningful, and therefore object-oriented, statement, simply because every meaningful statement is inevitably object-oriented.

The specificity of a proposition, in relation to a judgment, lies in its postulated (assumed), rather than definite, cognitive value. This points to the fact that the boundaries between a proposition and a judgment are not rigid, and that the concept of cognitive value is flexible-that is, except at the extreme points (true-false), it is not completely limited even by the scale of valences.

There are several difficulties in defining the term "proposition." The first is its similarity to a judgment, which leads to the mistaken equation of propositions and judgments. The second, and a very significant difficulty, is the common use of the terms "proposition" and "scientific proposition." The term "proposition" is often used to denote the concept of a "viewpoint" or "standpoint," while the term "scientific proposition" is used to denote any scientific judgment or conclusion-that is, any statement that expresses a definite logical truth value. The statement "scientific proposition," if it does not denote a "scientific viewpoint," is actually meaningless. A proposition has a postulated cognitive value, whereas "scientific propositions" have a scientific basis and argumentation, and thus an indisputably definite cognitive value.

Propositions can be classified based on many of the criteria already used in the classification of judgments. We most often encounter diagnostic propositions in the form of an assertion about current events, prognostic propositions whose content is a prediction, and interrogative propositions that express doubts and questions.

Thus, in research, we may encounter a multitude of diverse propositions with varied objectivity, grounding, and verifiability, as well as different functions and functionalities. We will often be in a position to form a proposition about propositions that, when verified, changes its status and transforms into a judgment or a conclusion.

2.3. Judgment

In the discussion on concepts, we presented opposing viewpoints on the concept as the basic form of thought and a system of judgments. Some argue that a concept does not exist as an independent form, while others deny the existence of propositions and judgments as separate forms. In contrast to these denials, the existence and epistemological role of concepts and judgments are emphasized. Methodology leaves these disputes to logic. Scientific research operates with concepts, creates and defines them, makes judgments about concepts and relationships, states and processes, and draws conclusions about the objects and factors of the research subject. Therefore, methodology accepts the existence of concepts, judgments, and conclusions as separate forms of scientific knowledge, as instruments, starting points, and results of scientific and research knowledge.

There are many definitions of a judgment, and each one emphasizes a different characteristic or property. Based on all known important definitions of a judgment, the following key characteristics can be derived:

1. A judgment, like a proposition, is a statement.

2. It is a special kind of proposition.

3. A judgment is object-oriented and meaningful.

4. It is a combination of the concepts of a predicate and a subject.

5. A judgment is categorically affirmative and categorically negative.

6. A judgment clearly expresses its valence, i.e., the degree of its cognitive value.

There's a certain contradiction between the statements numbered 5 and 6. Point 5 recognizes only true and false, while the systems of trivalent, nine-valent, and polyvalent logic also recognize probable. For researchers in the social sciences, it's therefore important that a judgment can contain the characteristic "probable" even when it is categorical. A categorical affirmative judgment can state: "this is probable," with a specific degree. The significance of this degree of definiteness and cognitive value comes from the fact that it is what distinguishes a judgment as a special kind of proposition from a statement.

Judgments come in many forms and can be classified by various criteria, but the most important are: subject, logical content, and complexity.

1) Judgments by Subject

In the social sciences, the subjects of all judgments are social phenomena, processes, relationships, structures, actions, and so on. The challenge is that all these subjects also appear as the specific topics of various sciences and disciplines. However, in this context, the subject of a judgment is not viewed as a concrete object but as a general, principled one.

Based on the subject, we can distinguish between:

(1) Attributive Judgments: These judgments focus on any attribute (property, characteristic) of a real or ideal object.

They can be:

(a) Attributive qualitative: Judgments about the nature of properties.

(b) Attributive quantitative: Judgments about the quantity, size, frequency, and similarity of an object's properties.

(c) Attributive of state: Judgments about the characteristics of a given state.

(2) Relational Judgments: These judgments deal with various relationships. This category includes:

(a) Qualitative relational judgments: Judgments about the relationships between an object's different properties.

(b) Quantitative relational judgments: These focus on the relationships between quantities (size, distribution, frequency, etc.).

(c) Temporal relational judgments: Judgments that deal with sequences and time spans.

(d) Causal relational judgments: These discuss causes and effects. It's assumed that these also cover judgments about "conditions."

(e) Functional judgments: These are used to understand the functional dependence between the predicate and the subject of the judgment.

(f) Comparative judgments: Judgments that compare a phenomenon(s), its factors, characteristics, or properties.

(g) Processual judgments: Judgments that relate to events, processes, and so on.

(h) Judgments of naming: These state "that is that," which means giving a name, a label, or assigning a sign or symbol.

(i) Factual judgments: Their subjects are actual, factual truths, whether practical or theoretical.

(j) Value judgments and judgments of estimation: These are based on specific value systems, with the subject making the judgment being the dominant factor. In scientific research, value judgments are distinct from judgments of estimation. Estimation is a form of intuitive measurement that is structured and carried out with specific rules and scales, which isn't the case for value judgments.

Given that judgments of estimation exist, how is it possible to omit judgments of evaluation, which are both "older" and serve as the foundation for judgments of estimation?

2) Judgments by Logical Content

By logical content, judgments are known by: a) *quality*, b) *quantity*, and c) *modality*.

(1) Judgments by Quality express what is conceived, i.e., the quality of the logical content of the judgment. They appear as:

(a) Affirmative or positive judgments.

(b) Negative judgments.

(c) Interrogative (questioning) judgments.

From the names themselves, you can see that the first type asserts something, the second denies something, and the third asks a question. It is reasonable to ask whether interrogative judgments can exist according to the definition of a judgment. We'll recall that one of the characteristics of judgments is that they are expressed as categorically affirmative or categorically negative.

(2) Judgments by Quantity express the scope of a concept in the judgment. These are:

(a) *General judgments*, where the subject is a general concept, meaning it's quantitatively indefinite.

(b) Individual judgments, where the subject is an individual concept.

(c) Universal judgments, where the subject is a concept of a genus, class, set of phenomena, or a plurality of members.

(d) Particular judgments, whose conception refers to a part of a set, a class, or a part of a phenomenon, or the specific properties of some members of a set.

(3) Judgments by Modality include problematic, probable, assertoric, apodictic, and normative judgments.

(a) *Problematic judgments* are all judgments that express uncertainty about the relationship between the predicate and the subject of the concept. As a rule, such judgments contain the word "maybe."

(b) *Probable judgments* express the probability of the existence of a judgment, its validity, or the subjective probability of making the judgment.

(c) *Assertoric judgments* refer to an individual fact that doesn't necessarily have to exist and therefore doesn't have to be necessarily conceived. For instance, it's not determined that a blackboard must be black-it could be green or blue-so it's not necessary to conceive of it as black.

In research work in the social sciences, we encounter a multitude of subjects and situations whose conception and existence are not necessary. Depending on how we define "necessary," questions arise about the relationship between existing existence and necessity, development and necessity, and so on. The assertoric nature of judgments and the role and functions of assertoric judgments are more a problem of logic than of scientific research, whose subject is human society and social phenomena.

(d) *Apodictic judgments* are the conception of the necessary existence of things, qualities, quantities, and relationships. In fact, all definitions of subjects that constitute social reality are apodictic judgments. For example, "society is made up of individuals" expresses necessity in a twofold way. First, it is genuinely impossible for a real human society to exist without individuals, their groups, communities, etc. Second, it is not possible to conceive of society without conceiving of individuals, groups, etc. The connection between the existence of a phenomenon and its existence as necessary is immediate and directly expressed here. Given the importance and frequency of definitions in scientific research, we can assert that apodictic judgments are of highlighted importance in this work.

(e) *Normative judgments* prescribe specific behaviors and the requirements and rules for them. For example: "People live in social communities."; "People must cooperate with each other."

The overview of judgments by modality can be supplemented by a criterion based on their role in scientific research. It's evident that there are analytical and synthetic judgments, descriptive, explicative, diagnostic, prognostic, reconstructive, etc. However, preserving the logical systematicity of the presented classification does not initiate its expansion.

Two other important points should be noted: the first is that the same judgments, according to various classification criteria, occupy different places, possess different properties, and thus have different meanings. Qualitative and quantitative judgments are a clear example of this. The second point is that when forming a judgment, we encounter certain difficulties, the most significant of which are:

a) Perception and thought about the subject of the judgment. These difficulties arise from both the nature of the judgment's subject and the personal characteristics of the person making the judgment.

b) The structure of the judgment itself, its complexity, etc., present another difficulty.

c) A third source of difficulty is so-called "impersonal expressions," in which the subject and predicate of the concept are not directly stated. For example, it is clear that when one says "it's raining" or "it's snowing", the complete judgment is "rain is falling" or "snow is falling". However, the definiteness of the meaning is lost when one says "lives"-because the true content of such a judgment can only be revealed from the context.

These difficulties are overcome by studying the process of forming judgments, understanding their characteristics, and maintaining a critical approach to scientific research practice.

2.4. Conclusion

Regarding a complex subject-and all subjects in the social sciences are very complex-scientific knowledge can only be obtained through the inevitable formation of valid conclusions using an adequate procedure of inference. The procedure of inference is necessarily connected with the procedures of defining and judging.

While various authors define inference differently, there is a minimum consensus on six key characteristics that allow us to accept the following definition: "*Inference is a complex process of deriving a new, valid judgment from one or more existing judgments (premises) by bringing them into an appropriate relationship and indirectly understanding the objective relationships of two or more subjects.*"

The newly produced judgment (or proposition) is called the "conclusio". The judgments or propositions from which the conclusion (the new proposition/judgment) is derived are called premises.

There are two main types of inference: (1) *Direct* (immediate) inference, when a conclusion is based on only one premise. As a rule, this yields a deductive conclusion. (2) *Indirect* (mediated) inference, when a conclusion is based on two or more premises.

The following characteristics apply to both types of inference:

a) Inference is a complex form of thought.

b) The conclusion is its complex intellectual product.

c) Inference is a procedure for understanding complex relationships between multiple objects, or multiple characteristics of those objects, or one common characteristic among multiple objects. The conclusion is the degree of knowledge about the relationships of those objects or their characteristics.

d) Inference is a procedure for deriving one judgment from others, and the conclusion is a judgment derived from other judgments through a specific procedure.

e) Inference is the logical following of a new judgment from other judgments, and the conclusion is a logically derived judgment obtained through a valid procedure from other (true) judgments.

An immediately (directly) derived judgment can appear, according to the criteria of formal logic and its procedures, as:

a) Inference by subalternation, meaning a particular judgment is derived from a universal one, and vice versa.

b) Inference by opposition, where the truth or falsehood of a judgment is derived from its opposite.

c) Inference by conversion, in which the subject of the concept becomes the predicate.

d) Inference by equipollence, where the predicate of a given judgment is replaced by a contrary opposite predicate.

e) Inference by contraposition, which requires a judgment to be derived by equipollence and then converted.

Besides deductive inference from a single premise, a conclusion can also be drawn from incomplete induction. For example, a conclusion about the entire contents of a barrel is made based on a single cup of liquid taken from it.

Direct conclusions in social science research are most common during the research design and data processing phases, when a single piece of data serves as a premise.

Indirect (mediated) inference is more frequent and productive in the social sciences due to the properties of social phenomena (diversity, mass, developmental nature, changeability, etc.). In addition to the possibility of drawing direct conclusions from a single premise, all three forms of inference (*traduction*, *deduction*, and *induction*) allow for indirect inference using two or more premises. When inferring from multiple premises, there is a clear difference in the characteristics of the inference when the premises are existing conclusions versus when the inference is based on original data demonstrating phenomena. Inference based on data in various types of reasoning has not been sufficiently studied.

A characteristic feature of all three types of inference is that their conclusion involves at least three subjects or three characteristics. The procedure regularly includes at least three members in different roles, and there is always one member acting as a mediator, called the "terminus medius" or "middle term."

1) *Traductive Inference*

Traductive inference is a procedure for drawing conclusions about relationships, primarily those of similarity, identity, or equality. The process unfolds as follows: the first premise states a specific relationship between object A and object B, or between their characteristics. The second premise establishes the same relationship between object B and object C, or their attributes.

This transfers the relationship from A to B and from B to C. The third part arrives at a conclusion based on the relationship between A and C, stating that the same relationship exists.

A standard example:

A → B = Milan is similar to Pavle; **B → C** = Pavle is similar to Petar; **A→ C** = Milan is similar to Petar.

The value of this conclusion in the social sciences is conditioned by many factors, primarily the subject of the specific inference. The reliability of the conclusion is high when it relates to quantitative characteristics that can be directly observed, measured, and compared. However, conclusions about quality and prospects may not be valid, especially if they are based on and concern external-or formal-similarity.

2) *Inductive Inference*

Inductive inference uncovers the connections and relationships between specific objects or characteristics-specific propositions-and a general characteristic-object-proposition. It is the procedure of deriving a general proposition from several individual propositions. Inductive inference is initial, foundational, and primary in human and research practice because it is based on concrete individual propositions, which are the basis for deriving a new proposition as new, empirically and intellectually grounded knowledge.

Although incomplete direct induction is of particular importance due to the properties of social phenomena-especially so-called statistical and statistical inductive inference-we must not overlook inference from a single instance (exemplar) transferred to the entire class, population, or quantity. For example, a conclusion such as:

A) This glass of beer from barrel "x" is good.

B) The beer from barrel "x" is good. This is a valid and reliable conclusion, much more reliable than:

A) Alija arrived on time the day before yesterday.

B) Alija arrived on time yesterday.

C) Alija arrived on time today.

Therefore, Alija will also arrive on time tomorrow, or (even less reliably) Alija will always arrive on time.

The reliability of inductive inference based on incomplete induction depends on the subject of the inference. If the subject is a state (a diagnostic conclusion), the conclusion is more reliable. If the conclusion is prognostic, it is less reliable. If the subject is a slow-moving, widespread, and complex process, the inductive conclusion is more reliable. If the conclusion is prognostic but covers a shorter period, it will be more reliable. For example:

A) Company "x" operated successfully in the first quarter.

B) Company "x" operated even more successfully in the third quarter than in the second.

Conclusion: The business performance of company "x" will be successful this year.

When presenting these very simple examples, we must note that inductive inferences are also possible within the framework of connected comparisons.

Demographic research (as well as economic, political science, criminological, migration, etc.) develops and uses systems of comparative, simultaneous inference with statistical induction. A simple example of tables for birth and death rates, income and expenditure, or the needs of a minimal and average social level versus actual consumption of goods is enough to understand that simple thoughts about the statement "all swans are white" are flawed. If just one swan is found that is not white, the conclusion is wrong. We must understand that it can be reliably concluded that some swans are white or that there are swans of various colors.

We have dwelled on induction for so long because of the properties of social phenomena's mass nature and changeability, and because of the properties of social sciences whose inevitable component is empirical research. In such research, the application of the general statistical method, which is based on induction-primarily statistical induction-is essential.

We have spent this much time on induction due to the mass and changeable properties of social phenomena and because social sciences are inevitably tied to empirical research, which necessitates the use of the general statistical method-at its core, statistical induction.

3) Deductive Inference

Deductive inference is considered a procedure that provides an analytical-and therefore the most reliable and truthful-conclusion that necessarily follows from its premises. This type of inference has been given the greatest importance in logic and has been studied the most.

The subject of deductive inference is the connections and relationships between a general characteristic and a particular one, and by the principle that the general is contained within the particular and individual (and vice versa), it also extends to the individual. The following standard example demonstrates this:

A) All planets in the solar system orbit the sun.

B) Mars is a planet in the solar system.

C) Mars orbits the sun.

This example comes from a field characterized by uniformity and universal regularities, whereas social phenomena are only relatively uniform and governed by few universal, highly abstract laws. This is why the possibilities of deductive inference in this area are very limited.

The syllogism is the most representative form of deductive inference, consisting of three parts: a) the premise "terminus major," the premise "terminus medius," and the conclusion "terminus minor." The first, the "terminus major," is the "major term" from which the conclusion begins to be derived. The second, the "terminus medius," is the middle, connecting term and is considered the most important part of the procedure. c) The final part is the derived conclusion, the "terminus minor."

Depending on the premises, we encounter three types of syllogisms: categorical, disjunctive, and hypothetical. There are three basic modes of a hypothetical syllogism: the deductive "modus ponendo ponens," the "modus tollendo tollens," and the "reductive modus tollendo tollens." The first derives the consequence from the reason. The second concludes the non-existence of the reason from the non-existence of the consequence. The third concludes the existence of the reason from the existence of the consequence. For example:

(1) Through "modus ponendo ponens," consequences are asserted based on reasons. For example: "If student XY studied, he mastered the material." "Student XY studied systematically." "Student XY completely mastered the material."

(2) Through "modus tollendo tollens," a conclusion is drawn that a consequence does not exist if the reason does not exist. For example: "If student XY studied systematically, he completely mastered the material."

"Student XY did not completely master the material." "Therefore, the student did not study systematically."

(3) The reductive "modus ponendo ponens" concludes the existence of a reason based on the existence of a consequence. For example: "If student XY studied systematically, he completely mastered the material." "Student XY completely mastered the material." "Therefore, student XY studied systematically."

Based on the subject, the three most important types of conclusions for scientific research are:

(1) Qualitative Conclusions: These contain qualitative judgments. For example:

(A) "All people are included in specific social communities."

(B) "XY is a (modern) person."

"Therefore, XY is included in a specific social community."

(2) Processual Conclusions: The subjects of these are interconnected processes. For example:

(A) "Poverty causes people's dissatisfaction."

(B) "Reducing poverty reduces dissatisfaction."

"Therefore, the eradication of poverty eliminates dissatisfaction."

(3) Relational Conclusions: These express mediated relationships between objects or their characteristics. Unlike the previous types, these conclusions are not syllogistic because they express the belonging of one class to another. A common example for a relational conclusion is:

A→ B Emina is Jasna's mother. B → Jasna is Dijana's sister.

"Therefore, Dijana is Emina's daughter."

The key properties of knowledge acquired through inference are:

(1) Transitions and connections from the known contained in the premises to knowledge about the unknown.

(2) A mental leap from the known to the unknown, a mental reconstruction, and a more or less accurate understanding of the subject.

3. Place and Role of Other Basic Forms and Processes of Scientific Knowledge

Scientific knowledge begins with the verification, systematization, generalization, and selection of already existing human knowledge. In this process, which we refer to as the constitution of sciences, a key role is played by axioms and theorems, scientific approaches and postulates, scientific theories, and scientific laws. Simultaneously, the process of building methods (techniques and procedures) of scientific knowledge is also underway.

At the core of the constitution and development of science-and scientific knowledge-are attempts with varying effects, including proving and refuting.

3.1. Proving and Refuting

The procedure of proving and refuting, which is at the heart of every verification of the truthfulness of knowledge, consists of two basic parts with opposing aims. The first is proving, which has a positive aim; the second is refuting, which has a negative aim. Although these two parts can be clearly distinguished, they cannot be separated and viewed in isolation. In modern theory, Popper's view that something is proven only if it cannot be, or has not been, refuted is still popular. Furthermore, the basic structure of the process is identical:

(A) A thesis (or hypothesis) is posited, which needs to be proven or refuted.

(B) Arguments are selected that confirm, prove, or refute the thesis. These arguments (proofs) can be theoretical, empirical, or both, depending on the subject of the thesis and the way it is formulated.

(C) The arguments are demonstrated-presented-with a clear statement of their relationship to the thesis's proposition(s).

(D) Based on the arguments, a conclusion is reached-it is stated whether the thesis has been proven (confirmed) or refuted.

Proving and refuting in science is stricter and more complex than in everyday practice. The basis for this is the rule that a thesis (scientific, working, or other hypothesis) must be scientifically grounded, meaning it must have its source and support in a scientific approach, in the postulates and premises of science, or at least in a scientific method. In scientific proving and refuting, a search is simultaneously conducted for arguments that prove and arguments that refute the thesis, and their cognitive and truth value are, in principle, discovered and accepted in the same way. In practice, proving and refuting happen simultaneously. For this to be possible, at least three key conditions must be met:

(1) The thesis must be verifiable and clearly formulated.

(2) The arguments must relate to the essential characteristics of the thesis, including its grounding.

(3) The arguments must be used and evaluated in a methodologically sound way. It is necessary to determine the content, direction, and strength of the arguments both individually and as a system formed by their combination.

The clear requirements and rules of proving and refuting have not prevented errors. An error can be defined as any deviation from the requirements and rules regarding the setting and stating of a thesis or antithesis, as well as deviations from the requirements for the arguments and their demonstration.

The most common errors in proving are: (A) errors of reason and (B) errors in the demonstration of reason.

Errors of reason are:

a) Indefiniteness and confusion of reasons in the form of an indeterminate and imprecise statement, its ambiguity and grammatical incorrectness; insufficient definition of the place of the concepts used, the appearance of synonyms and homonyms, and the very construction of the statement.

b) One-sidedness of reasons.

c) Falseness of reasons.

d) Insufficientness-weakness of reasons.

Errors in the demonstration of reasons, whether accidental or intentional, are most often:

a) "Pars pro toto"-errors of generalization-a part is treated as the whole.

b) "Non sequitur"-there is no appropriate connection between the propositions of the reason and the propositions of the thesis, so the conclusion "does not follow."

c) "Petitio principii"-the error of begging the question or "circulus vitiosus"-the absence of a reason, i.e., a circular argument involving the reason and the thesis.

d) Changing or replacing the thesis ("paralogism" and "sophism").

e) The proof deviates from the true subject of the proof.

Refuting is also a process of proving, but it aims to prove the *falsehood* of the thesis, or the truthfulness of the antithesis-if one is actually formulated. The main problem with refuting is that its actual cognitive value is lower because knowing that "something is not" does not provide knowledge of what that something is. This statement can be objected to in law and criminology, where there is also a process of proving that one party is not guilty (refuting an accusation). However, we must remember the phrasing of an acquittal "due to lack of evidence."

The basic rules of proving and refuting are essentially the same. However, there is a special subtype of proving the falsehood of a thesis called "reductio ad absurdum," in which the thesis is declared absurd.

The procedures of proving and refuting that we have outlined primarily apply to factual propositions and conclusions. They apply to value judgments only in the sense that they are existing social facts that have effects, which can be researched. However, the value, correctness, etc., of the values that constitute the content of value judgments do not fall under these procedures, even though they are sometimes used in practice.

3.2. Axioms and Postulates

3.2.1. Axioms

Axioms can and do appear in three significant roles in scientific knowledge and research practice. First, they serve as the foundation and starting point for scientific research. Second, they act as essential, especially theoretical, arguments in the process of proving and refuting. Third, they emerge as the ultimate product of scientific research.

Depending on how the concept of an axiom is understood and defined, a fourth role can also be assigned-that of a subject of research and verification. Or, the role of axioms as a result of research can be contested, but it cannot be denied that axioms also serve as the basis of the scientific method (the general scientific axiomatic method) or that they are an integral part of every theory.

There are two opposing views on axioms. The older, "rationalist" view sees axioms as the fundamental truths of scientific systems that are simultaneously the basic logical truths of long-existing human knowledge. As such, they are not verified but are accepted and serve as the basis for scientific processes. According to this view, a proposition to be granted the status of an axiom must meet the requirements of three rules:

(1) *The Rule of Consistency*: All axioms within a single axiomatic system must have properties that make them a unified, logically coherent system. Therefore, they must belong to a specific type of logic and be mutually communicable. This rule is of exceptional importance because it implies the requirement that scientific research starting from one axiom must be conducted within the framework of the logic to which that axiom belongs.

(2) *The Rule of Completeness*: This requires that an axiomatic system be complete enough that all the theorems of that system can be derived from and verified within it. This rule essentially claims that the axiomatic system contains all the theorems of that system but does not clarify the relationship between axioms and theorems.

(3) *The Rule of Independence of Axioms*: This means that no axiom of a given system can be derived from another axiom of that system. According to this rule, are all axioms of a system of the same level and importance?

In their form, axioms are general propositions that express principles and scientific laws. They are at the core of the starting points of theories and other processes of scientific knowledge, as well as the definition of fundamental ("primitive") concepts.

The second, more modern view of axioms is contrary to the first "rationalist" one and constitutes an "empiricist" and "empiricist-rationalist" approach.

The "empiricist approach" considers axioms to be propositions acquired through empirical experience via induction and abstraction.

The "empiricist-rationalist" view considers axioms to be propositions produced on the basis of empirical experience or on the basis of reason.

The last two views allow us to define axioms as:

a) Fundamental principled propositions about the objective definiteness of certain subjects of knowledge, and as a principle of knowledge for a specific area of subjects, because an axiom cannot be derived by deduction, but all propositions of a specific axiomatic system can be deduced from it.

b) A principle of knowledge, because it grasps the essential characteristic of a subject and expresses its essence and general property.

c) A fundamental general proposition that we derive by immediate generalization, whose essence of knowledge lies in the immediate induction of the general from the particular.

d) The understanding of the essential general in the particular through the creative conceptual expression of the general in the particular and the essential in the phenomenal.

In this sense, axioms are both the results of scientific research and its subject. They are also changeable, and they do not all have the exact same origin. Some axioms are derived from theorems that have been verified as general truths through human practice; others are creations of systematic scientific-theoretical work and scientific empirical research. Their duration and validity can be, according to current knowledge, eternal (e.g., "people are mortal"), while others are long-term, with their importance extending through epochs (e.g., monogamous marriage is the dominant form of community for people of opposite genders) or only through a few decades.

Axioms most often appear as postulates in deductive inference and in the foundations of scientific (deductive) theories. However, axioms can appear as postulates in the form of general propositions or in the form of scientific laws.

3.2.2. Postulates

Postulates are the fundamental propositions and assumptions on which we base the starting points-the approaches to the processes of acquiring scientific knowledge, especially the processes of scientific research. They are, in principle, true or at least probable. However, when it comes to entirely new phenomena, they may only be possible, and even wrong. No matter their degree of truthfulness, postulates, in their role toward a subject (of reflection, research, or practice), always contain a component of hypotheticality. A simple example is that women give birth to children. Hypotheticality arises in this case because the accurate postulate, a general principle, does not claim that every single woman in given circumstances can and will get pregnant and give birth to a child. Hence the view that a postulate about a subject is hypothetical and probable. In scientific research, the goal is for postulates to be axioms, scientific laws, or scientific explanations. However, this is not possible in all cases-at least not when researching and learning about the new and unknown. Otherwise, scientific revolutions and paradigm shifts would not be able to happen.

The *starting point* or *approach* to research, which we'll treat as synonyms here, is a much more complex concept. The approach or starting point of a scientific study includes:

a) Basic, initial ideas about the problem.

b) Ideas about the possibility of researching and solving the problem.

c) A postulate-more often a system of postulates-that serves as the basis for forming propositions about the problem and its research.

d) Expectations from the research and its results.

The key difference between a postulate and a research approach is that, in principle, the postulate is already constituted scientific knowledge-it is given as relatively static. The approach, the starting point, is not given. It is a creative product resulting from a postulate (or a system of postulates) through intellectual effort and is a complex product of scientific-research practice. Starting points-approaches-are always theoretical syntheses, theoretical propositions, hypotheses of some theory, a scientific theory, or theory in general. In scientific research practice, it is very difficult to find a purely scientific-theoretical approach. Most often, along with the scientific-theoretical foundations of the starting point, we also encounter empirical knowledge, intuition, and inspiration as essential factors.

The starting points or approaches to scientific knowledge, in their general form and viewpoint, are contained in and relatively systematically expressed in so-called theoretical-methodological directions, which will be discussed in the next chapter of the book.

3.3. Scientific Laws as Postulates of Scientific Research

The briefest acceptable definition of a scientific law could be: "A scientific law is scientifically expressed scientific knowledge about a natural, psychological, or social law." This definition asserts:

(1) In nature and society (including the psychological sphere), certain regularities occur.

(2) These regularities manifest through the repetition of phenomena (natural, psychological, social) under specific or identical conditions.

(3) We call these regularities laws.

(4) Reliable scientific knowledge about these regularities, expressed in scientific language, is what we call scientific laws.

Based on this, it can be stated:

(1) There are objective laws of varying degrees of stability: some cannot be influenced because they occur as inevitabilities; others have a lower degree of stability; and a third group has an even lower degree of stability.

(2) Based on the spheres in which they occur, we can distinguish between natural, psychological, and social laws. Accordingly, we distinguish scientific laws by subject: a) scientific natural laws; b) scientific psychological laws; and c) scientific social laws.

(3) The most stable and inevitable, least susceptible to influences under certain conditions, are natural laws, followed by psychological laws, and finally, social laws. In this sense, regardless of the reliability of the scientific knowledge, the most reliable postulates and premises are (a) scientific natural laws, followed by (b) scientific psychological laws, and lastly, (c) scientific social laws.

The structure of scientific laws consists of:

a) The objective process (regularity, law) about which scientific knowledge is acquired and constituted.

b) The formalized, verified scientific knowledge expressed in scientific language.

The procedure for discovering scientific laws consists of:

(1) Discovering multiple similar or identical phenomena.

(2) Uncovering and studying their common properties and relationships.

(3) Based on the results of this study, a well-founded hypothesis about essential, general connections and relationships is proposed.

(4) The formulated hypothesis (or hypotheses) is theoretically and empirically verified.

(5) The results obtained through valid scientific methods allow for a systematically reliable conclusion (or a system of conclusions).

(6) Based on this, a general law-like proposition is formed, which is then expressed as a formalized proposition in the scientific language of the corresponding science.

Scientific laws can be classified by multiple criteria. For scientific social laws, which are essential for the social sciences, it is important to distinguish:

A) By subject: (a) laws of connection; (b) structural laws; (c) laws of sets; and (d) mixed laws. In reality, it is very difficult to separate structural laws from laws of relationships and connections, as relationships and connections only exist within and between factors and structures.

B) By epistemological function: (a) descriptive and (b) explicative laws. This raises the question of whether purely descriptive laws are possible.

C) By validity: (a) strict and (b) probable laws.

Of particular interest are socio-historical laws, which, it seems, still need to be more deeply researched. Understanding them as laws that are valid for or in certain socio-historical epochs does not seem sufficient.

The presented classification should certainly be supplemented by distinguishing between the general laws of specific sciences and mid-range laws in the sense attributed to them by R.K. Merton.

A key characteristic of all scientific laws is that they form the necessary structural parts of a scientific theory. Thus, they can act as postulates and approaches both independently and within the framework of a theory.

3.4. Scientific Theory as a Postulate and Approach to Scientific Knowledge and Research

In the broadest sense, a theory is considered any scientific or other form of abstract thought. A scientific theory differs from a theory in the broader sense by its defined subject of thought within a science or scientific discipline, as well as by its composition, structure, procedure, and systematic nature. It aims for and/or contains a scientific explanation.

Many definitions of theory exist, most of them based on philosophical-logical assumptions and on the experiences and characteristics of the natural sciences. The specificity of the social sciences is that they cannot base their theories or definitions of theory on "abstract calculus."

To help overcome the difficulties in understanding scientific theory in the social sciences, we will present a series of essential, scientifically grounded observations about scientific theory.

A scientific theory is a highly complex intellectual (conceptual) creation that arises from abstraction. A theory is made up of current, past, and possible, assumed knowledge, both verified and unverified, and is structured into specific scientific systems.

The structure of a scientific theory consists of: (a) Scientific principles – axioms, (b) Scientific concepts – definitions, (c) Scientific laws, (d) Scientific explanations, (e) Scientific and scientifically grounded hypotheses, (f) Scientifically usable theorems, (g) Scientific arguments – reasons, (h) Scientific-theoretical language

A scientific theory must have certain properties: (a) Objectivity, (b) Logicality, (c) Meaningfulness, (d) Definiteness, systematicity, and coherence, (e) Clarity, (f) Verifiability, (g) Development, (h) Scientific and social functionality, (i) A degree of truthfulness.

As a rule, scientific theories rely on various logical systems and belong to various theoretical-methodological traditions.

The basic classifications of scientific theories are:

A) By *Subject*: (1) Metatheories, (2) Theories about the subjects of a science, (3) Theories about methods and methodology (methodological-procedural theories)

B) By *Origin*: (a) Analytical-deductive, (b) Empirical-generalizing, (c) Empirical-inductive, (d) Hypothetical-deductive, (e) Combined

C) By *Scope*: (a) General, universal theories, (b) General theories, (c) Particular, partial theories, (d) Theories of a medium scope

This classification is valid within the framework of related groups of sciences, individual sciences, and scientific disciplines. It can also be understood as theories about: (a) science in general; (b) a group of related sciences; (c) a specific science; (d) a specific part or a single discipline; (e) a part of a scientific discipline.

Theories also vary by their degree of rigor and verifiability: (a) Confirmable theories (probable, empirical-inductive) and (b) Provable theories (analytical-deductive).

Theories also differ in their cognitive power, which is demonstrated by the number of hypotheses that can be confirmed by the theory, or the number of characteristics that can be explained by it.

Theories play a multifaceted role in both scientific and social practice. In the field of scientific research, they serve as incentives, postulates, and approaches to research; they are also the subject of research and verification, as well as its result. In social practice, they act as incentives and guidelines for practical action.

3.5. General Scientific Methods

The very name "general scientific methods" points to their key characteristics: (1) Their generality and relative abstractness; (2) Their very strong connection to logic and epistemology, and through them, to philosophy; (3) Their intense link to human experience and experiential knowledge, as well as the generalization and systematization of that knowledge into regularities, laws, and probabilities; (4) Their applicability in all types of scientific research within any science or scientific discipline.[4)]

General scientific methods can be understood as a specific synthesis of all key forms and procedures of scientific and human knowledge. They are a systematic demonstration of the interdependence and interpenetration of various forms and procedures of knowledge. They also manifest as a synthesis of the ideal and the real, the theoretical and the empirical, the general and the particular.

In the research practice of the social sciences, not all general scientific methods have the same status or are used with equal frequency. The hypothetico-deductive, statistical, and modeling methods are most commonly applied in the social sciences, while the analytical-deductive is used less often, and the axiomatic method is the rarest. It should be noted that all general scientific methods are grounded in specific axioms, theorems, laws, and confirmed regularities, and that they are, however faintly visible, embedded in the foundations of social theories.

The properties of general scientific methods are the reason they are discussed, primarily for informational purposes, at the end of this chapter. Their existence is essentially the procedure for creating a systematic body of verified human knowledge that allows it to serve as a starting point for new research and for the critical verification of existing knowledge.

3.5.1. The Hypothetico-Deductive General Scientific Method

The hypothetico-deductive method is essentially cognitively postulated on selective, verified, and confirmed social experience across different times, places, and from a multitude of subjects. It is a dynamic, deliberate, and generalized experience constituted into relatively truthful knowledge. An essential part of this methodological knowledge is necessarily the understanding of changeability and development, identity and difference, opposition and contradiction. This body of knowledge is not given once and for all, but is also in a state of development. It seems that one of the key concepts of this method is "situation" as a dynamic category of the totality of conditions for events and actual events.

This method does not accept the view that axioms are simply "given." Instead, it holds that axioms are constructed as essential, irrefutably truthful knowledge, that their validity is general, and that it can be verified.

The procedure for building and applying the hypothetico-deductive method can be simplified into five points:

1. Forming the postulatory basis by documenting diverse experiences gained through communication about the same subjects of social reality. Diverse experiences, repeated many times in the same and different situations, are compared, and the identity of the essence of the subject is established.

2. By grasping this essence and possibly forming a theoretical definition (about what follows in a sequence, is typical, model-like, processual-most widespread...), a status is formed as a criterion, norm, measure, or orientation for action.

3. A comparison with various paradigms and knowledge about that subject follows.

4. The acquired knowledge is integrated into a cognitive (scientific) system, which also means the formation of beliefs and behavioral stereotypes.

5. Based on all of the above, axiomatized validity is assigned ("always-if"), which constitutes a formed axiomatic proposition.[5)]

At the core of the hypothetico-deductive method is perception (sensory) and observation (non-sensory). In the mentioned work, Radosavljević, I., on pages 259/260, provides an ontological classification of perception, distinguishing between:

a) Pure sensory perception ('original sensory, without a prior name, sign, or meaning' and outside of the 'paradigmatic system').

b) Sensory perceptions within a 'paradigmatic system,' with formed names and meanings of subjects.

c) Sensory perceptions within a system of science and a 'paradigm' of science.

d) Psychic perceptions.

e) Rational spiritual perceptions (perceptions of ideas, beliefs, faiths), etc. We would supplement the list of mentioned perceptions with emotional perceptions (experiences and feelings), as these are specifically complex and, in many ways, different from other perceptions of a psychic nature. Also, we would call any perception in which the senses do not play a dominant role (such as those marked with c, d, and e) an observation.

Because of its characteristics, the hypothetico-deductive method has a higher degree of applicability than other general scientific methods. It is the foundation of all of them and exists in a cooperative and interconnected relationship with them. It does not have its own specific techniques and instruments but relies on already existing standard research-operational methods. However, it is among the most complex methods because it constantly facilitates circulation in the relationships of concrete-particular-general and empirical-theoretical, as well as perception-thought-understanding and comprehension.

Due to its connection with and relationships to other methods, it is one of the most productive general scientific methods.

The success of applying the hypothetico-deductive method depends on: (a) Understanding the research project and successfully designing it; (b) It requires validly grounded starting-initial-hypotheses and hypothetical propositions, for which it provides the necessary foundation, and does not count on so-called "illusory hypotheses"; (c) The strict and consistent application of the scientific research procedure-from the conceptualization of the research task to the final report. This requires a rigorous critical stance and creativity toward theory; (d) It must not be understood one-sidedly as merely diagnostic or prognostic, but as an integral method that requires the understanding that "today grew out of yesterday" and that "tomorrow grows out of today"; (e) A defined relationship with the paradigms of sciences is an essential condition for the successful application of this method; (f) The hypothetico-deductive method requires a valid understanding of various theoretical-methodological approaches and an independent relationship toward them-as a "base and superstructure" relationship.

3.5.2. The Statistical Method

The statistical method, as a defined and established method, is relatively new. However, even today, there are still misunderstandings, disputes, and incorrect approaches related to it. Setting aside the misguided approaches, misconceptions, and disputes, we will state that this method in the social sciences is based on several undeniable postulates: (1) Everything happens in space and time; (2) Every phenomenon has its content and form, its quality and dimensions; (3) Every expressed quantity necessarily contains a specific quality-there is no "empty" social quantity; (4) The general and the universal are essentially "many of one kind," or "one of many kinds." It is an abstraction founded on generalization and a resultant effect.[6)]

If we set aside individual trial and error, which is the basis of the proto-method of human empirical knowledge and the experimental method, and if we consider the statement about the hypothetico-deductive method, the statistical method is the only one that can be used to study mass phenomena-and society and social phenomena are mass phenomena.

At the core of the statistical method are the basic methods of induction and generalization, as methods for connecting concretely known (conceptualized) information into something particular and general. Related to this are the laws of large numbers, the principle of relative uniformity of identical and similar phenomena, as well as the concepts of average, regularity, statistical generality, and statistical law.

A key characteristic of the statistical method is measurement. In all cases of its application, it involves determining the number of units of a specific phenomenon-that is, the quantity and relationships of specific quantities that relate to specific qualities. In the social sciences, given that the subjects of research are not only exact phenomena but also psychological and spiritual human creations, the application of the statistical method requires a strict definition of the research subject and its factors, and therefore also the definition of indicators and the relationships between them.

The starting point for the statistical method is the concept of a "statistical mass." This includes all the units of a particular phenomenon. For example, all residents of a specific territory, regardless of other characteristics, constitute the statistical mass of the population for that territory. However, even though the concept is clear, it is still necessary to define who we consider a resident of the territory: someone who lives there permanently or anyone who happened to be in that territory at the moment of the research.

The statistical mass can be completely unknown, in which case the task is to determine its scope and other characteristics. It can also be known from a previous period, so the task is to determine the changes that occurred during the observed period. It's also possible that the statistical mass is known, but that knowledge is being verified, or that, based on the most general knowledge about the statistical mass, its structure, internal relationships, certain movements, trends, etc., are being investigated.

The application of the statistical method requires collecting four basic types of data: qualitative, quantitative, chronological, and geographical. In this regard, we must point out that in the social sciences, these types of data are necessarily interconnected. You cannot collect only quantitative data; it must be connected with qualitative data. When we state that there are "five" of something, we must simultaneously state what those five things are: people, objects, animals, etc. Likewise, in the social sciences, it is common to connect chronological data, which shows a temporal dimension, with geographical data, which shows the location of a phenomenon.

It seems important to mention that the primary subjects of research in the social sciences are the properties, traits, and characteristics of people, their behaviors, relationships, and attitudes.

Research on a statistical mass-in other words, statistical research-can be carried out through a census or a sample.[7)] A census involves documenting all units of a phenomenon and drawing conclusions about the phenomenon using knowledge about every single unit. This provides the most reliable and complete knowledge, but it is also often unfeasible. It is based on complete induction. A sample, on the other hand, involves selecting a certain number of representative units of a phenomenon and drawing conclusions about the phenomenon based on them. This method of inference is based on the premises of relative uniformity and the law of large numbers, and the possibilities of making estimations based on them.

Despite the power of sampling, the problems of causation and the representativeness of the sample units and the sample as a whole remain constant challenges.

Following the *first phase* (*identifying the statistical mass based on research requirements*) and the *second* (*deciding between a census or a sample*), the third phase is data collection. This is done using one or more operational data collection methods simultaneously. The nature of the data and the research dictates the methods used, but the choice of data collection methods does not determine the application of statistical procedures.

The *fourth phase* of applying the statistical method is the *formation of data series*. The common types are:

a) *Static series*: These numerically express the state of a phenomenon at one or more locations at a specific moment or time segment. For example: "On [date], in place 'X,' there were 'y' permanent residents." Or, "In the period from [date] to [date], 'y' workers left territory 'X' to work abroad." Or, "In 2002, 'X' students enrolled in Sarajevo, 'Y' in Mostar, 'Z' in Tuzla," and so on. The commonality in all these statements is that the series records a given state.

b) *Dynamic series*: In contrast, these series record movement and change over specific periods. While static series allow for comparisons between states at various locations (typically at the same moment or period), dynamic series report various states at different moments (time periods) in the same or different places. For example: Bosnia and Herzegovina had 'X' inhabitants in 1940, 'Y' in 1950, 'Z' in 1960, etc. Here, the time periods for observation are consistent (every ten years). This is recommended because it allows for a valid comparison and the recording of changes in a stable time series. However, in addition to chronological, astronomical, and calendar time, there is also social time, which is very important for the social sciences. It marks significant social events. For example: "Sarajevo had 'X' inhabitants until 1991 (before the war in the former SFRY)." "Immediately after the Dayton Agreement in 1995, Sarajevo had 'Y' inhabitants." "In 2001, Sarajevo had 'Z' inhabitants." Here, the reference is to social time: pre-war, during and immediately after the war, and five years into the post-peace transition.

Both static and dynamic statistical series can be expressed verbally, numerically, and graphically. The essential component, or components, of a series, even when expressed graphically, are the verbal and numerical statements. Without them, the graphical components (lines, bars, circles, etc.) are not understandable on their own. Verbal and numerical expressions determine the basis of meaning. We understand the formation of a series as a statistical description only.

The next, fifth phase of applying the statistical method is statistical analysis. There are three main types of analysis:[8)]

Static analysis, which, based on data, establishes a state by relying on static series.

Dynamic analysis, which reveals movements and changes and relies on dynamic series or on comparing multiple static series from different time periods (e.g., comparing population censuses from various times).

Correlational analysis, which determines the quantitative relationships between phenomena. Correlational analysis is used alongside regression analysis, which is believed to establish and express cause-and-effect relationships.

Given that in the social sciences hypotheses can only be confirmed, not proven, correlational analysis is more common and widely used. Although it only shows the existence of connections and their frequency, correlational analysis, along with regression, is one of the most complex syntheses of static and dynamic analysis. The question of the possibility and true value of regression analysis arises from the very assertion that propositions in the social sciences cannot be proven, but only confirmed-by determining their degree of probability. This does not mean that a stable, proven basis for regression analysis cannot be established.

The primary goal of static analysis is to discover "frequency distribution," which is the numerical frequency of certain properties. Dynamic analysis is aimed at uncovering property (or phenomenon) variations over time, and one of its most common and visually appealing forms is called a "trend." This demonstrates the possibility of linking probability theory with the general statistical method.

The most common statistical procedures are counting, calculating percentages, and calculating mean values (measures of central tendency).

Arithmetic mean, median, and mode are generally calculated from "raw" unorganized data, or from data grouped by frequency, grouped into classes, or using an arbitrary point. It's also possible to express variability and standard scores ("Z" and "T" scores).

Small correlations are the basis for a substantive understanding of statistical regularities and laws. The value of a correlation is determined by measuring a correlation coefficient, which expresses the degree of association between two variable phenomena and ranges from +1 to -1.

The most common models for calculating correlation are the Pearson coefficient, the Eta coefficient, and the Spearman rank correlation coefficient. These are followed by the biserial coefficient, the point-biserial coefficient, the C-coefficient, and coefficients for partial correlation and multiple correlation. A so-called Chi-square test is used to prove the probability of an association between qualitative data and a statistical measure.

Statistical generalization is an essential characteristic of the statistical method. Complete, incomplete, and probable generalization are all known. The most common procedures for determining the significance of differences between statistical values are: a) confronting pairs, which determines the significance of differences between arithmetic means and between proportions; b) analysis of variance, for differences between multiple arithmetic means, as well as for internal and external variability.

Calculating the standard deviation of the sample mean (if research is conducted using a sample) is a mandatory procedure without which sample results cannot be amplified to the total statistical mass. The standard deviation of the sample mean is calculated from the frequency of features, from the deviation from the true sample mean, and based on the number of sample units using the formula: n= (fd 2)/n. The formula for the standard deviation of the mass is: n= (fd 2)/(n−1).

The sixth phase of applying the statistical method is data *presentation* and *representation*. It is widely known (and we also cover this in the chapter on data processing) that data can be presented: verbally, numerically, graphically, and in combined forms. This includes systems of statements, numerical series, tables, charts (rectangular images, circles), frequency histograms (bar charts), frequency polygons, cumulative frequency graphs (ogives), the Gaussian (normal) curve, and the coordinate system.

The seventh phase is the interpretation of results and the drawing of conclusions based on data obtained through statistical analysis. This seventh phase involves the procedures of data organization and processing, their connection, comparison, and the derivation of logical and probable truthful conclusions according to the rules of proving and refuting.

The final, eighth phase of applying the statistical method is the derivation of regularities and laws through an appropriate procedure.

Types of Samples

Research that relies on a statistically representative sample requires answers to at least the following questions:

1) What is a sample, particularly a representative one?

2) What kinds of samples exist, and how are they obtained?

3) What is the actual, and especially the prognostic, value of the results obtained from research on a sample?

A statistical sample-the sample on which the research is conducted-is a set of a certain number of individuals whose properties, traits, and characteristics represent the essential properties, traits, and characteristics of the statistical mass (the defined social whole). This relatively simple definition of a sample, based on the principles and concepts of incomplete induction, seems clear and acceptable at first glance. Unfortunately, even when we accept it in principle, it leaves us with open questions:

(1) How large must a sample be (how many "units" must a sample include to be truly "representative?")?

(2) What exactly is a "representative" sample: what properties, traits, and characteristics must the sample express to be representative?

(3) What is the relationship between the subject of the research and the "representative" sample?

(4) What is the relationship between the "representativeness" of the data source and the "representativeness" of the knowledge about the phenomenon being researched?[9)]

These are just some basic questions for which we'll seek a general, probable answer. However, all the answers we can reach are primarily based on experience and lack a sufficient scientific explanation. The main difficulty lies in the undeniable fact that, at least up to this point, even when people are most similar, they are not replicas, and the same person can differ greatly from situation to situation.

The sample depends on the number and properties of the units that constitute the research subject. A sample is completely unsuitable if the subject of the research contains up to 100 units, as all one hundred units could be mutually different. If the research subject comprises 1.3 billion units (the population of China), none of the known samples are sufficient. This is why regular, periodic censuses are conducted. Moreover, no matter how much we insist on multidisciplinary research, we must acknowledge that it is difficult to conduct on the same sample. A sample that is suitable for one science or scientific discipline may not be suitable for every other one.

We have already stated that in the social sciences, we can use the statistical method to research the properties of social subjects (quantitative and qualitative), behaviors (including actions), and attitudes. Our research never covers all properties, traits, and characteristics, all behaviors, or all attitudes. On the contrary, every science and every discipline designates only some of them as important, essential, or determinant. Similarly, it considers only some subjects, their properties, behaviors, and attitudes as typical, average, or representative. In addition, one must consider the system of values and the evaluation of good and evil, positive and negative. Our research does not have to be (and should not be) focused solely on the usual or average, but also on the above-average, unusual, or rare. Therefore, the representativeness of a sample cannot be reduced to simple statistical representativeness; it must also account for social representativeness, which can only be determined according to the characteristics of the subject. Fidelity to one's spouse and fidelity to a political party (although both values are structurally quite similar) cannot be researched with an identical sample. In the first case, unmarried people have no place; in the second, there is no place for those who are not members or sympathizers of a specific party (or parties).

Based on the facts presented, our general answer is:

(1) Not all phenomena, especially those that are massive and comprised of numerous, diverse factors, can be successfully researched using the same

sample. There is a significant risk of oversimplification and inaccurate dimensionalization.

(2) Research using a sample is best suited for mass phenomena whose dimensions (time-space) and the number of units are known, and for which certain typifications and averages of properties, behaviors, and attitudes already exist, serving as a basis for defining representativeness.

(3) We can consider a sample to be sufficiently comprehensive if it contains enough units of the phenomenon that manifest a sufficient number of essential properties, traits, behaviors, and attitudes, allowing for knowledge about the entire statistical mass to be gained from them. Therefore, a "representative" sample is one that is sufficient in the number of its units and their manifestations, according to the requirements of the research subject, hypotheses, and indicators-and based on already articulated theoretical premises.

A sample is a way to save time, resources, and human potential. The results achieved by using a sample justify its use in research despite numerous difficulties.

Generally speaking, there are two groups of samples: (1) samples formed to discover the size and properties of an unknown statistical mass; (2) Samples that are formed (drawn) from a known statistical mass. Modern social research is characterized by samples that rely on a known statistical mass-at least to some extent.

There are also two basic types of samples: samples formed by a random selection method and intentional samples, with many transitional variants and modifications, the most popular of which is the stratified sample.

The most respected, but not most frequently used, is the ten-percent sample, formed by so-called "random selection," in which every unit of the statistical mass has, in principle, an equal chance of being included in the sample. This sample is very rigorous and is formed using the following procedure:

(A) The statistical mass is determined, and a record-keeping document within it that will be used is selected (voter lists, records of residence, official records of some institution, etc.);

(B) A "step" is determined for selecting subjects to be included in the sample-in our case, this is every tenth person;

(C) A number is chosen randomly to begin the count;

(D) The process of counting and registering the subjects included in the sample begins, as well as at least 10% more (who form a reserve in case the sample size decreases).

The ten-percent sample is considered overly extensive when it exceeds three thousand units. However, this is not in line with a key principle of the statistical method: its findings on regularities and laws are more truthful when they encompass a greater number of diverse units from different places and times.

An intentional sample involves the deliberate selection of each unit included in the sample, based on predetermined criteria. For example: all high school students who completed every grade with an average grade of 5; all competitors in a specific sport who have been national team members multiple times; all mayors of municipalities in the FBiH cantons or in Bosnia and Herzegovina.

A stratified sample can be formed in several ways and represents a transition from a random selection sample to an intentional sample. Most often, the sample size (number of units) is first determined, and then proportional quotas for certain characteristics are established within it (e.g., residents of certain cantons, indigenous versus other populations, people with higher education and those without), and within each "quota," the units are chosen by the random selection method.

These are the most common and productive types of samples, but numerous variations also exist.

Samples of information sources that are not subjects-for example, the documents we will use in content analysis-are chosen based on the properties of their content, availability, and other criteria.

The possibility of conducting research using samples makes the statistical method very economical. Its productivity and significance, especially its prognostic capabilities, are based on "statistical generality," on determining the "average" and "most frequent," and on so-called statistical regularities and laws. It should be added that the statistical method can also be used to process so-called "qualitative" data.

It's no exaggeration to say that no modern research in the social sciences is possible without the application of the general scientific statistical method. It is highly cooperative with other methods, especially the modeling method. It's also useful to point out that research based on samples encourages and justifies the formation of special and specific methodologies for individual sciences and disciplines.

3.5.3. The General Scientific Modeling Method

The general scientific modeling method is based on the practice of human thought and imagination and the everyday practice of producing goods. The name of this method is linked to its operations with models, whether it's imitating existing models, conceiving and constructing non-existent, new models for new phenomena, or varying existing models and their still unknown states and movements.[10)]

Therefore, we will define all models created by the modeling method as: (a) imitation models, (2) prototype models, (3) projection models.

Models can be ideal or real, meaning they can relate to actual phenomena (realities) or to concepts with a certain degree of definiteness. We can thus distinguish between *practical* real models, and *ideal* and *idealized* models. It would be too broad to describe all possible contents and forms of models. It's enough to say that every map, schematic, mockup, and prototype is a model, and that every object, organization, institution, etc., is a real, realized model.

The factors in the process of modeling (as a set of procedures by which this method is realized) are: (1) the subject who is modeling; (2) the subject of the modeling; (3) the means and procedures of modeling and the conditions of the modeling.

The modeling procedure unfolds as follows:

(1) Stating the need for a specific type of model for a phenomenon, process, or just an event.

(2) Selecting and defining the subject of the model.

(3) Choosing the means of modeling and the method of expressing the model (which are mutually dependent) in accordance with its functional purpose.

(4) Selecting and preparing collaborators and participants in the model's creation and demonstration.

(5) Creating the model's project (from initial concept to final plan) and executing the project to build the model.

(6) Verifying the model's validity and making improvements.

(7) Presenting and applying the model.

A research project (including its implementation, conceptual design, and the preceding project brief) is a kind of model itself. Therefore, the outlined procedure for creating a model can also be recognized in the process of designing research. The procedure for creating closed and open, rigid and flexible models is essentially the same. It is believed that in the social sciences, closed, rigid models are not acceptable. However, it should be kept in mind that every system (including social ones) is to some extent closed to its environment, so its model is necessarily closed and rigid to that degree. Otherwise, even minimal stability of the system or model would be absent.

For the social sciences and the study of social processes and phenomena, the modal (or model) experiment is the most important. The significance of the modal experiment lies in the fact that it expresses the experimental nature of the modeling method. Every model is, by its very nature, a form of experiment (e.g., every prototype, rule, etc.). Thus, a modal experiment can be understood as both a practical, actual experiment (e.g., establishing a specific social system, subsystem, institution, or reorganization) and a conceptual experiment, which is of exceptional importance for prognostic research.

The conceptual (or theoretical) modal experiment is realized through the following procedure:

(1) Based on the most reliable scientific knowledge, or, lacking that, other knowledge (which may be entirely hypothetical), a conceptualization of the whole of a phenomenon or process is constructed. This encompasses all essential characteristics of the subject: structural factors, properties, relationships, functions and roles in the phenomenon and process, directions, and the effects of actions and reactions. This is how we form a model of cause-and-effect relationships, a model of mutual dependence, and so on.

(2) Depending on the research subject and the function of the model and its factors, we vary the active factors (causal factors) and observe the consequences that follow. If the theory is well-developed or if we have enough valid empirical generalizations about human behavior, we can draw conclusions about what happens based on theoretical standards. If this is insufficient, which is the rule for any new social situation, then we apply the

basic methods of proving and refuting, and especially the logical function of implication ("if-then").

(3) By varying (strengthening/weakening; including/excluding, etc.) multiple factors and consequences and comparing them, we can arrive at a conclusion about the optimal structure, properties, relationships, etc.

The prognostic validity and penetrating power of a conceptual experiment in the age of developed electronics primarily depend on:

(a) The scope and properties of the initial knowledge about the model.

(b) The development of scientific theory, especially its axioms and theorems.

(c) The researcher's capacity for criticality and objectivity.

The modeling method and modal experiment are more difficult to apply to global and universal social phenomena due to their excessive complexity. However, in certain disciplinary areas where high-level scientific, informational, and practical standardizations have already been achieved (e.g., law) and for very common phenomena (e.g., marriage, family, school, military, etc.), the potential of the modeling method and modal experiment is very significant.

Simulation techniques are the most effective form of applying the conceptual (modal) experiment.

3.5.4. The Axiomatic Method

In contemporary methodology, the question of whether the axiomatic method is an independent general scientific method, and whether it's applicable to the social sciences, which are truly based on empirical knowledge, generalizations, and theory, is still being debated. Without entering that debate, we will treat the axiomatic method as an independent general scientific method. By accepting it as a general scientific method, we consider it applicable to the social sciences as well.

The axiomatic method differs from the general scientific methods[11)] we have discussed so far in that it is not based on empirical knowledge and is not primarily directed toward it. We will define it as a general scientific, conceptual, non-empirically-driven method that serves the function of all other forms of knowledge.

The key characteristics of the axiomatic method are:

a) Its subject matter is characteristically supra-empirical.

b) It consists of postulating and applying axioms in derivations of propositional and predicate calculus (in postulating or choosing the axioms of a certain system), in setting definitions that hold the place of absolute truths within the system, and in deriving all other propositions of that system from the axioms and definitions of the basic logical propositions. According to this characteristic, we have two situations.

The first part of this definition, which talks about postulating axioms, points us toward induction, generalization, and abstraction. In a word, in the postulation of axioms (as absolute truths that are not subject to verification), the axiomatic method is directed toward the hypothetico-deductive method.

The second part of the definition positions it as strictly deductive and analytical.

The axiomatic method presupposes the existence (or construction) of axiomatic systems, which have their own structures. According to a simpler understanding, they are composed of axioms, theorems, and other propositions derived from the axioms-and consistent with them (hypotheses, theories, etc.). A more complex view speaks of: a) forming the rules for the creation of the system's fundamental truths; b) the axioms of that axiomatic system; c) rules for transforming propositions; and d) rules for axiomatization and formalization.

Every correct axiomatic system must satisfy three norms: a) The rule of *completeness* - all of its theorems must be derivable and verifiable based on that system; b) The rule of *independence of axioms*; c) The rule of *consistency* - all axioms of the system form a logical and coherent system.

The axiomatic method was developed primarily from knowledge in the fields of mathematics, logic, and physics. Its role in the social sciences, more precisely in the field of legal sciences, was affirmed by Prof. Dr. Radomir Lukić in his book *Methodology of Law*. However, this general scientific method has been directly applied in the social sciences only to a limited extent. Its more direct and widespread application in the social sciences depends on scientific knowledge about determinisms and the standardization of scientific knowledge about cause-and-effect relationships, as well as the discovery of valid scientific laws and scientific explanations.

The task remains for the social sciences and their methodology to research the possibilities of applying the axiomatic method in their own scientific research.

3.5.5. The Analytical-Deductive Method

This method was first identified as an independent general scientific method by Professor Dr. Bogdan Šešić in his book, "Osnovi metodologije društvenih nauka" (Foundations of Methodology of Social Sciences), and was later adopted by Milosavljević, S., Radosavljević, I., Termiz, Dž., and others. Karl Marx famously used this method in his theoretical study of commodities in the book "Capital."[12])

A key feature of this method is "conceptualizing" or abstract ("highly abstract," "multi-layered abstraction") thinking based on empirical data. It is used to discover "idealized" laws and "internal causes," which can and must then be verified in practice.

The procedure of the analytical-deductive method unfolds as follows:

1. "Paradigmatic principles," or "theoretical-methodological postulates," are first established.
2. Empirical facts are discovered and comprehended.
3. Multiple levels of abstraction are performed on the knowledge from empirical generalizations, and these are then connected.
4. Based on this, abstract (scientific and other) laws and scientific explanations are discovered.
5. The acquired knowledge is concretized and applied to practice.

The high degree of connection between this method and the hypothetico-deductive method, as well as the similarity of their procedures, is evident.

A significant quality of this method is its penetrating power, provided that the paradigmatic or theoretical-methodological starting point is correctly defined.

3.5.6. The Comparative Method

According to current classifications in methodology, the comparative method is not considered a general scientific method but a general method of the social sciences. This view is explicitly challenged by Termiz, Dž. and Milosavljević, S. in their book *Introduction to the Methodology of Politicology*, and by Milosavljević, S. and Radosavljević, I. in *Foundations of Methodology of Political Sciences.*[13)]

The arguments for classifying the comparative method as a general scientific method are, in short, the following:

1. Comparison is based on analogy, and analogy is as fundamental as analysis.
2. In all processes of perception, thought, research, and the formation, expression, and application of knowledge, comparisons are inevitably made to establish identities (sameness), similarities, and differences in form, content, essence, and so on.
3. In the practice of knowledge in general and in scientific research, rules have already been established for: a) what can be compared with what; b) what can be determined during comparison; c) how it can be determined; d) the experimental nature of comparison; and e) the scientific effects of comparison.

For the social sciences, it is essential that the fundamental general subjects of comparison are all social phenomena. However, not all social phenomena can be compared with each other. Only those with a certain quality that allows for the establishment of a degree of sameness, similarity, or difference can be compared. Genus, class, etc., and their definitions and properties give us the possibility of comparison not just to determine similarities but also to establish differences. Within social phenomena, even entirely diverse, different, and multi-class phenomena can be compared to establish differences. Of course, there is more meaning in comparing identical or similar phenomena, following Durkheim's principle: the same phenomenon at the same time within one community; the same phenomenon within one community at different times; and the same phenomenon in different communities at the same time or at different times.

However, determining what is similar and what isn't is also done through comparison. The key question of the comparative method is the following:

a) The need for a sufficiently precise and accurate definition of at least one member of the comparison process, that is, of the properties and factors being compared.

b) The determination of comparable-the concretization of what will actually be compared (e.g., comparing families is the subject, but the selected characteristics of the families are the comparable).

c) The establishment of indicators-parameters of similarity and difference.

Once these preliminary conditions are met, the next steps are to obtain truthful, usable data, use it diligently, and draw conclusions based on it.

This general scientific method, which was effectively established and developed by Aristotle and Darwin in two different scientific fields, must be treated based on its characteristics and research experiences as: a) exceptionally widely applicable and applied; b) very insightful, even serving as a substitute for experimentation in certain situations and fields; c) a factor that permeates all other methods, not just the general scientific ones.

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1. These are the books that primarily served as the basis for the discussion of basic methods:

(1) Šešić, Bogdan: *Foundations of Logic*
(2) Šešić, Bogdan: *General Methodology*
(3) Šešić, Bogdan: *Foundations of Methodology of Social Sciences*
(4) Petronijević, Branislav: *Foundations of Logic*
(5) Ristić, Živan: *On Research, Method, and Knowledge*
(6) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*
(7) Milosavljević, Slavomir - Radosavljević, Ivan: *Foundations of Methodology of Political Sciences*

Since this text provides only basic principles and guidelines, we did not consider it necessary to individually link each point to the specific source text. The reason for this is that, aside from occasional differences, there is a predominant consensus in the views presented.

2. Finished data doesn't exist; there are only direct or indirect manifestations. The conceptual processing of a manifestation-which includes stating, discovering, articulating its meaning, and selecting it-transforms it into **data**, or a partial understanding of a phenomenon.

3. The discussions on propositions, judgments, and conclusions are based on the same literature mentioned previously. Since the views on these topics are largely consistent, we will proceed in the same way as we did in the previous chapter.

4. (1) Šešić, Bogdan: *General Methodology*, Naučna knjiga, Belgrade, 1971; *Foundations of Methodology of Social Sciences*, Naučna knjiga, Belgrade, 1974: pp. 101-129; *Foundations of Logic*, Naučna knjiga, 1983, pp. 315-320;
(2) Zaječaranović, Gligorije: *Foundations of the Methodology of Science*, Naučna knjiga, 1987;
(3) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, DAX Trade, Sarajevo, 1999, pp. 173-275;
(4) Milosavljević, Slavomir - Radosavljević, Ivan: Foundations of Methodology of Political Sciences, Službeni glasnik, Belgrade, 2000, pp. 255-309;
(5) Termiz, Dževad: *Foundations of the Methodology of Social Work Science*, Grafit, Lukavac, 2001.

5. (1) Radosavljević, Ivan: *The Hypothetico-Deductive Method in Political Research*, Dečije novine, Gornji Milanovac, 1996;
(2) Šešić, Bogdan: *Logic*, pp. 14-18, 61.
(3) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, pp. 244-265;
(4) Milosavljević, Slavomir - Radosavljević, Ivan: *Foundations of Methodology of Political Sciences*, pp. 256-264.

6. (1) Miljanović, Dr. Mihajlo and Stojak, Dr. Rudi: *Statistical Methods Applied in Anthropology and Physical Culture*, Narodna knjiga, Belgrade, 1989, p. 11;
(2) Obradović, S. and Sentić, M.: *Foundations of Statistical Analysis*, 1959, p. 5;
(3) Šešić, Bogdan: *General Methodology*, pp. 31-35, *Foundations of Methodology of Social Sciences*, pp. 101-110;
(4) Termiz, Dževad: *Application of the General Scientific Statistical Method in Social Welfare Research*, FPN, Sarajevo, 1992.
(5) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, pp. 177-230;
(6) Milosavljević, Slavomir - Radosavljević, Ivan: *Foundations of Methodology of Political Sciences*, pp. 265-279.

7. (1) Mužić, Vladimir: *Methodology of Pedagogical Research*, Svjetlost and Zavod za izdavanje udžbenika, Sarajevo, 1977;
(2) Škara, Vidojević, Ljubica: *The Statistical Method in Social Sciences*, Stručna knjiga, 1976;
(3) Krneta, Miodrag: *Statistics for Sociologists*, IPO; Ekonomika and Ekonomski institut, Belgrade, 1987;
(4) Balaban, Vojislav: *The Sample Method*, (in the collection: *'Methodology of Social Phenomena Research'*) - Institut za kriminološka istraživanja, Belgrade, 1962, pp. 407-447;
(5) Petc, Boris: *Basic Statistical Methods for Non-Mathematicians,* Sveučilišna naklada, Liber, Zagreb, 1985.

8. Fitzgerald, D. Jack - Fox, M. Steven: *Methodology of Research in Criminal Sciences*, Fakultet kriminalističkih nauka, Sarajevo, 2001 (edited by Prof. Dr. Ibrahim Bakić and Elmeden Muratbegović), pp. 59-72, and 99-199.

9. (1) Bogdanović, Marija: *Methodological Studies*, Institut za političke studije, Belgrade, 1993, part on the Biographical Method and Markov Chains, pp. 121-178;
(2) Blagoev, Borislav: *Statistics for Law School Students*, Naučna knjiga, Belgrade, pp. 178-183.

10. (1) Šešić, Bogdan: *General Methodology*, pp. 18-27, *Foundations of Methodology of Social Sciences*, pp. 111, 123, 183-190;
(2) Zaječaranović, Gligorije: *Foundations of the Methodology of Science*, pp. 65-66;
(3) Milosavljević, Slavomir: *The Conceptual Model of Continuing Education for RTV Journalists*, RTV Beograd, 1982;
(4) Filipović, Dragomir: *Continuing Education - Global Strategy and Models*, Privredna štampa, Belgrade, 1980.
(5) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, pp. 231-236;
(6) Termiz, Dževad - Milosavljević, Slavomir: *Practical Course in the Methodology of Politicology*, Sarajevo, 2000, pp. 113-160;
(7) Milosavljević, Slavomir - Radosavljević, Ivan: *Foundations of Methodology of Political Sciences*, pp. 279-286.

11. (1) Lukić, Radomir: *Methodology of Law*, Naučna knjiga, Belgrade, 1983;
(2) Zaječaranović, Gligorije: *Foundations of the Methodology of Science*, pp. 49, 56;
(3) Šešić, Bogdan: *General Methodology*, pp. 37-45, *Foundations of Methodology of Social Sciences*, pp. 101-125, *Foundations of Logic*, pp. 315-320;
(4) Radosavljević, Ivan: *The Hypothetico-Deductive Method in Political Research*, p. 98;
(5) Marković, Mihailo: *Philosophical Foundations of Science*, SANU, Belgrade, 1981, pp. 516-520;
(6) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, pp. 237-244;
(7) Milosavljević, Slavomir - Radosavljević, Ivan: *Foundations of Methodology of Political Sciences*, pp. 287-290.

12. (1) Marx, Karl: *Capital*;
(2) Šešić, Bogdan: *General Methodology*, pp. 123-126; *Foundations of Methodology of Social Sciences*, pp. 122 and 124;
(3) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, pp. 265-266;
(4) Milosavljević, Slavomir - Radosavljević, Ivan: *Foundations of Methodology of Political Sciences*, p. 291.

13. (1) Milić, Vojin: *Sociological Method*, Nolit, Belgrade, 1978, pp. 757, 761;

(2) Šešić, Bogdan: *Foundations of Methodology of Social Sciences*, pp. 122-127, 146, 191;
(3) Cohen, Morris - Nagel, Ernest: *An Introduction to Logic and Scientific Method*, Zavod za izdavanje udžbenika SRS, Belgrade, 1979, pp. 352-354.
(4) Von Baume, Klaus: *Contemporary Political Theories*, Stvarnost, Zagreb, 1974, pp. 122-129;
(5) Stanojčić, Ilija: *The Comparative-Historical Method*, in the Collection: *Methodology of Social Phenomena Research*, Belgrade, 1962, pp. 105-123;
(6) Gros, Marija: *Historical Science*, Zagreb, Cx1, 1980, pp. 241-253, 353-367;
(7) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, pp. 267-274;
(8) Milosavljević, Slavomir - Radosavljević, Ivan: *Foundations of Methodology of Political Sciences*, pp. 292-300.

Note: Most authors of methodological scientific works do not seek to classify methods by their foundational nature and generality, and some do not classify them at all.

V - BASIC THEORETICAL-METHODOLOGICAL APPROACHES IN UNDERSTANDING SCIENTIFIC KNOWLEDGE OF SOCIETY

V - BASIC THEORETICAL-METHODOLOGICAL APPROACHES IN UNDERSTANDING SCIENTIFIC KNOWLEDGE OF SOCIETY

There are a great many theoretical-methodological approaches that, to a greater or lesser degree, are related to the methods of scientific knowledge and research. However, the development of methodology has been most influenced by those approaches which, along with their theoretical propositions, methodological concepts, and norms, encourage or point to new research methods. These include:

(1) The positivist approach, with its subgroups: (1.1) structuralism, (1.2) functionalism, and (1.3) behaviorism.

(2) Axiologism, or the socio-historical/historical-methodological approach.

(3) The dialectical methodological approach.

Our core argument is that all of these theoretical-methodological approaches-and others we haven't mentioned-have, despite their shortcomings and errors, significantly contributed to the development of the conceptual methods of scientific research as a general, fundamental, and highly productive method of acquiring knowledge. Their disagreements and mutual criticisms have only contributed to necessary clarifications and paved the way for the growth of an integral methodology. This methodology is also called "synthesized" due to its synthetic approach, which is not exclusive to any positive, useful contribution from any single approach. It involves connecting all positive contributions into a conceptual and functional whole while overcoming the barriers of eclecticism.[1)] Any deeper, more responsible, and conscientious study will show that some initial theoretical propositions have died out or been corrected to a certain extent, that extreme views have proven to be dysfunctional and have been corrected within the theoretical-methodological approaches themselves. However, some fundamental, essential, and substantive characteristics of scientific research and methods have retained their value to this day.

In the following discussion, we will focus only on the permanently valuable methodological contributions of the mentioned approaches. We will touch on the philosophical and theoretical debates within specific sciences (primarily sociology and psychology) only to the necessary, minimal extent.

1. The Positivist Theoretical-Methodological Approach

The positivist theoretical approach emerged as a theory of society at the end of the eighteenth century, developing throughout the nineteenth and twentieth centuries. It culminated in the second half of the nineteenth and the first half of the twentieth centuries but remains influential through various transformations even today. Its founder is considered to be Comte, along with Saint-Simon (as a precursor), and J.S. Mill and É. Durkheim as his successors.

Questions about scientific knowledge and the methods of science were addressed and studied as necessary for the growth and spread of the positivist viewpoint, which at the time of its origin had truly revolutionary characteristics. According to Comte and his classification, a new, civilized "positive age" began with positivism, and this age required corresponding processes of knowledge acquisition.

With its fundamental propositions, positivism radically broke with the dominant dogmatic-scholastic and metaphysical way of thinking, instead introducing the concept of knowledge based on empirical facts. A key rule of the positivist approach is that the subject of research and scientific knowledge can only be subjects that can be experienced through the senses. This proposition was the subject of fierce criticism, especially from scholars with an axiological and dialectical orientation, and was often, intentionally or unintentionally, misunderstood and oversimplified. One must not overlook the explicit positivist view that social phenomena can be known directly-that is, through direct sensory perception-and indirectly-that is, not through direct sensory perception (Durkheim). The same applies to the proposition that social phenomena should be researched as things.[2)]

Positivists demand maximum objectivity in research, striving for a level of objectivity found in the natural sciences. However, they clearly distinguish the necessary methodological and procedural specificities in the methods of researching the inorganic and organic world, and in the research of human society and its environment. As early as Comte, the significant limitations of applying experimental methods and the necessity of historical and comparative methods, as well as observation and inquiry ("testimony"), were noted. They also make a clear distinction between natural and social laws. The idea that only what can be empirically and sensually known can be researched, and the demand that social phenomena be researched as things, is challenged by their understanding of the role of collective and social consciousness, or its social manifestations in the form of institutions, morals, customs, etc., as "social facts." The essence of their views is expressed in the still-valid rules that scientific knowledge must be verified by interpersonal verification and practice, which conveys the understanding that one can only research and scientifically know that which, in some way, directly or indirectly, manifests itself in social reality. This manifestation can be some kind of sign-signal, statement, activity, creation, effect, etc. It can be felt, seen, heard, emotionally experienced, etc. For a phenomenon to be researched, it must be *manifested in a way that allows for some method of documentation.*

For all positivists, a key concept is that of society as a specific organism ("social organism") that is similar to, but not the same as, a biological organism; as a complex whole composed of peoples, groups, institutions, etc., and as a closed system.

The methodological contributions of positivism as a whole can be summarized as follows:

1. Breaking away from and freeing scientific thought from the constraints of dogmatic scholasticism.

2. Insisting on and affirming the research of social reality by linking and integrating empirical research with theory, which emphasized the importance of sensory-experiential knowledge in acquiring, verifying, and confirming scientific knowledge.

3. Insisting on strictly regulated and controlled research, where the subject is defined and which is carried out using adequate scientific methods. This enables the discovery of structures, functions, relationships, connections, development, causes of the emergence, change, and cessation of phenomena, and the discovery of scientific laws and scientific explanations.

4. Pointing to the importance and role of building an appropriate scientific language and a conceptual-categorical system. The basic categories of positivism are: thing, fact, cause, factual judgments, explanation, description of a phenomenon, and the positivist method.[3)]

5. Developing, attempting to develop, and affirming new methods and method modifications:

   A) Comparative or historical-comparative.

   B) Methods for researching causes.

   C) The method of inverse deductive procedure.

   D) Structural analysis.

   E) Secondary analysis.

6. Discovering indicators as external manifestations of an internal essence, that is, as instruments for understanding one phenomenon through the manifestation of another.

Positivism has had at least a two-century development (and if connected to ancient empiricists, it's multi-century). It's therefore normal that various authors at different times expressed certain agreements along with certain disagreements.

1.1. Some Key Differences in the Views of the Most Important Positivist Authors

The differences in the views of the most important positivist authors-Comte, Mill, and Durkheim-arose from two main sources: the development of theoretical and experiential knowledge about the positivist method over time, and the scientific and social traditions of their homelands. Saint-Simon, Comte, and Durkheim were French, and their scientific and social tradition included the achievements of the Encyclopedists and the French Revolution, the Empire, and the Paris Commune. J.S. Mill originated in Great Britain, appearing in the time between Comte and Durkheim.

The biggest differences between Comte, Mill, and Durkheim were manifested in their:

(1) Understanding of the determinants of society and social development, and the origin and operation of social laws.

(2) Understanding of the relationship between sciences.

(3) Understanding of the relationship between scientific theory and the scientific method.

(4) Orientation toward building and developing research methods.

We will illustrate these differences through each of their views on the listed subjects.

(1) Differences in the Understanding of Societal Determinants

Comte emphasized "unchanging natural laws"[4)] as the crucial, all-encompassing determinant. He highlighted this view despite his other position that the laws of biology cannot be neglected or overlooked, but that social laws cannot be derived or explained based on them. When analyzed more deeply, these two positions refute the criticism levelled at Comte and the positivists that they disregard the specificity of the social and its connection to the natural. On the contrary, these positions precisely affirm humanity's naturalness and sociality, as well as the priority of nature as the environment and material basis of sociality. When we add the views on the essential role of the intellect and reason, social consciousness, and social order in the development of people and society, we can conclude that the basic propositions about the naturalness and sociality of humans and the relationship between nature and society are acceptable as postulates, but they are insufficient.

J.S. Mill, a mathematician by education and profession, was more concerned with methodological-procedural problems than with the problems of general theories of society[5)]. Nevertheless, he found the determinants of the existence and development of society in individual people, who exist in certain relationships, and in the laws of psychology. He believed that all human behaviour is a consequence of the actions of their psyche. It cannot be disputed that in people's attitudes, the "emotional" component plays a significant role alongside the "cognitive" and "conative" components-but always within a specific social context. It is true that every person "processes consciousness in their own head" and acts according to their own view, even when imitating the behaviour of others, but this is then socialized behaviour. Mill's contribution lies precisely in pointing to the human psyche as the individual being of the community.

Durkheim, with the already rich experience of the achievements of original positivism[6)] and with an insight into other theoretical-methodological approaches (e.g., dialectical, both idealist and materialist), radically reformed the positivist views. He sought social determinism in the very "interior" of society. All changes, including the development of society, are initiated from within society by its internal reasons and causes. This position is not far from Hegel's position on internal contradiction. Any deeper analysis shows that changes in society and within society are caused by its needs and the aspirations to satisfy those needs. This means there is a certain degree and intensity of opposition between the state of needs and the state of satisfying needs, which causes specific activities and movements whose consequences are changes. The synthesis presented here in three positivist propositions, which was not explicitly derived in its original framework, would be a significant postulate for an approach to researching society. A very important question was raised with Durkheim's "internal determinism." It might be useful to explain that two determinisms operate simultaneously: the external, which permeates everything-natural determinism (through energy in the form of matter, life and death, and instincts)-that is, the environment of man and society, and the internal, whose essential property is reason (knowledge, skill, ability to learn, memory) and the constant struggle and aspiration to utilize and subordinate the external determinant. All attempts (and successes) in subordinating and utilizing the spontaneous forces and movements of nature, from legends and beliefs to scientific knowledge-from the worship of the sun and the moon to man's flight to the moon-speak in this direction.

(2) Differences in Understanding of Science and Relations Between Sciences

There is a general consensus within positivism about the core tenets of science, its properties, and its role. Science is effectively understood as a process for acquiring verified knowledge, and it is credited with having objectivity, systematicity, intersubjective verifiability, demonstrability, social purposefulness, applicability, and usefulness. Science is governed by rules, as is clearly evident from Durkheim's work, "The Rules of Sociological Method".

Differences arise, however, concerning the understanding of science as an instrument of governance. Comte saw science as an essential tool for successful governance, a view not directly shared by the others, although they didn't explicitly deny it.

Another difference lies in their perspectives on the existence of various sciences.

Comte acknowledged the existence of the natural sciences, but he differentiated between those that study the *organic* world and those that study the *inorganic* world. For him, sociology was the integrative, unifying, synthesizing, general, and supreme social science. He recognized mathematics, astronomy, physics, chemistry, and biology, but sociology was the crown jewel of all.

In contrast, J.S. Mill held a much broader view. He understood the relative autonomy of various social fields and believed there should be multiple specific social sciences. He gave particular importance to (social) statistics, psychology, logic, and methodology, and he had an affirmative view on the role of mathematics in social research.

Émile Durkheim's views on science and specific social sciences, expressed indirectly but effectively through his most important works, were even broader and closer to social reality than those of Comte and Mill.

(3) Differences in Understanding the Relationship Between Scientific Theory and Scientific Method

Critics often accuse positivism, especially its empirical version, of having an aversion to theory and overemphasizing the empirical. Two key points contradict this view. First, Comte himself wrote theoretical works like "The Course in Positive Philosophy" and "The Course in Positive Politics," which can in no way be considered mere empirical generalizations. Second, Durkheim emphasized the need to approach research with respect for theoretical propositions, while also highlighting the difficulties (and thus the importance) of their operationalization.

All positivists not only built theories and theoretical works themselves, but they also insisted on discovering scientific laws and forming scientifically valid explanations. Scientific laws and explanations are crucial parts of any theory, so their insistence on discovering social and scientific laws and explanations is, in fact, an insistence on creating theories. There are no differences among positivists on this point. The differences among them lie only in the scope and degree of their direct engagement with scientific theories. For instance, Comte and Mill do not directly discuss the role of theory in research, nor do they point to its role as a guide and argument in research (scientific knowledge) and a leader of the social process. Durkheim, however, directly addresses the relationship between theory and research and, both directly and indirectly, observes and expresses all four roles of theory in his works:

a) The role of an initiator for solving a social problem and for research.

b) The role of a guide for research.

c) The role of a subject and a result of scientific knowledge.

d) The role of an initiator and guide for social practice.

Positivists differ greatly from all their predecessors in their explicit view that scientific theory does not arise independently of social reality, but is derived from it as truthful knowledge about social reality.

There is an interdependent relationship between theory and the scientific method. This is reflected in the approach taken, the definition of the research subject, and the understanding of a specific method's scope. In this regard, the following differences can be observed: Comte and Durkheim were holists. Although they favoured induction as a basic method, they did not accept the individual as a subject of research. Comte explicitly *rejected introspection* as a method of scientific inquiry, severely narrowed the possibilities of experimentation, and particularly championed observation, historical, and comparative methods ("as in biology"). His theoretical holistic views of society did not see surveys as a method, but rather as "testimony." Durkheim, understandably, was much more flexible. In contrast, J.S. Mill was a nominalist. He saw the problems in the relationship between the individual, the particular, and the general. He viewed the relationships between individuals as the fundamental subject of research and, accordingly, preferred the specificities of sciences and methods. He was the only positivist to directly engage with induction and its cognitive potential, as well as the theory of causes. He formulated the concept of "inverse deduction" (a deduction with a reversed procedure) and established a science of causation called "Etiology."

These differences, even within the same theoretical-methodological tradition, lead to significant variations in the approach to the subject and method of science.

(4) Positivist Approaches to Affirming and Creating New Methods

The most significant differences among the original positivists can be observed in their affirmation and creation of new general scientific and research methods. While there was broad agreement on the empirical-theoretical approach and induction as a key method, this consensus was considerably weaker when it came to other general scientific methods, particularly the statistical method.

Comte held a negative view of statistics and an underestimating attitude toward the potential of mathematics in social science. The foundation of the general scientific statistical method is precisely mathematics, statistics, quantification, and teleological scientific explanation. Even when we generously interpret his view as a cautionary warning about the danger of "quantophrenia," its origin is difficult to explain given his affirmative stance on induction. Perhaps it can be attributed to his assertion that scientific knowledge is not simply an ordering of data and the underdeveloped state of social statistics at the time.

In contrast to Comte, Mill emphasized the value of statistics, while Durkheim based some of his works (e.g., on suicide) on statistical research.

Comte was very affirmative toward the historical method, emphasizing that all (social) phenomena could be researched with it, a point neither Mill nor Durkheim denied. He also affirmed the comparative method, though he considered it a native method of biology (he saw experimentation as the native method of physics, and systematic classification as a method of chemistry). He pointed to the historical-comparative method as a possible substitute for experimentation in social research, comparing the *theological with the metaphysical and positive*-positivist-periods in social development. However, Durkheim provided the key rules for the subject of this research and general procedure, which he affirmed through his own works.

There are significant differences between Comte and Mill in their understanding of the role of logical rules. Comte did not mention logic or methodology and did not address the procedures for establishing and deriving true scientific laws. He remained at the level of describing succession and coexistence. Mill, however, directly criticized this by demanding the establishment of specific standards and procedures for determining truth. Durkheim, to a certain extent, resolved this with his "Rules of Sociological Method" and his understanding of "limiting" conditions.

Comte did not formulate any new methods, although he did provide an impetus for the development of the historical and comparative methods.

Mill's greatest contribution was precisely his attempt to build methods for researching causes, known as "Mill's Canons."[7)] These are:

1. *The Method of Agreement*: This involves observing several complexes of phenomena that share the presence of two events that follow one another. If the sequence is always the same, the first is the cause, and the second is the effect. It is realized through causal induction.

2. *The Method of Difference*: This is achieved by observing two complexes of phenomena that differ only in the presence or absence of a single subgroup. The phenomena within that subgroup always have the

same sequence, where the preceding phenomenon is the cause and the following one is the effect.

3. *The Method of Concomitant Variations*: This states that if in a group of phenomena, correlative variations occur in only one subgroup, the preceding phenomenon is the cause, and the following one is the effect.

4. *The Method of Residues*: According to this method, if, within a group of phenomena, the causes of all but one subgroup are known, the preceding phenomenon in that single subgroup is the cause, and the following one is the effect.

A *fifth combined model of agreement and difference* should be added to the above models. In this context, it should also be noted that Mill provided a definition of "empirical laws," stating that induction can only discover empirical laws, but not "causal" or "causal laws." However, we must take a critical stance toward the methods for researching causes (even though we don't currently have better-formulated ones). Nevertheless, the rules contained in Mill's canons-regarding the dependent relationship of an effect (or a consequence in the social sciences) to one or more causes, and the relationship of the cause(s) as preceding and the effect(s) as following-are of permanent validity. Of course, researchers are left with the task of solving problems of spurious correlation and causality, the order of primary and immediate causes, the relationships between multiple causes, and so on.

Only Durkheim, throughout his work, demonstrated the foundations of structural analysis (which later served as the basis for structural-functional and functionalist analysis). He also attempted to unify and codify the basic rules of scientific (positivist) research. In short, those rules included:

a) A defined research subject.

b) The use of existing theoretical knowledge.

c) Defined research goals.

d) Data collection with appropriate methods.

e) Intersubjective verification.

f) Drawing conclusions, scientific laws, and scientific explanations.

In a word, these rules prescribed a structured procedure that included operationalization, conceptual processing, and strict adherence to logic and meaningfulness.

(5) Critique of Positivism

Criticisms of positivism are numerous, both from within the original positivist movement and from outside. The most serious and significant critiques have been and continue to be made by adherents of the axiological and dialectical schools, but serious criticisms also come, directly or indirectly, from sub-branches of positivism, especially among functionalists.

Among the most important and justified criticisms of positivism, we can include:

1. The one-sidedness of positivism, particularly in its early period. This one-sidedness was expressed through its firm stance on researching society and social phenomena "as things," which, though understandable, was limiting.
2. An overemphasis on sensory experience without sufficient operationalization.
3. An overemphasis on imitating the natural sciences and their standards.
4. The view of society as being necessarily in agreement and of social development as necessary and unidirectional (at least until Durkheim).
5. Exclusivity toward some sciences (at least initially).
6. The view of society as a "closed system."
7. One-sidedness and exclusivity toward certain scientific methods.

Much of what critics like B. Šešić, M. Pečujlić, and Merton have said must be acknowledged. However, we must also note that some of these criticisms were a consequence of insufficient understanding or lack of depth; some were ideological, and others were partial. Therefore, we advocate for a critical approach to both positivism and its critiques.

2. Structuralism as a Theoretical-Methodological Approach

Structuralism is one of the least-affirmed theoretical-methodological approaches in social phenomena research, with the exception of studies in the fields of semantics and semiotics. This might be surprising given that structuralism contributed significantly to the critique of monism (i.e., positivism) and to establishing the stability of economic structure as foundational and determinant. Modern structuralism has not completely abandoned the subject or defined structure as timeless and placeless. The fact that social structures are made up of subjects (individual, group, collective, etc.), and that these subjects, through their meaningful, purposeful, and volitional activities, actions, and behaviors, are precisely the creators of certain social structural factors, is completely overlooked. Social structures do not arise solely spontaneously or randomly but also through the purposeful actions of people-that is, through human creativity.

Of course, the position that structure is older than people cannot be disputed. Some structures existed before people, and people themselves came into being as developing structures. However, that is not the direct subject of the social sciences. Their subject, if it can be defined as a general one-as the subject of the entire social sciences-is human society and the characteristics of social structure. Structuralism, which emerged in the 1960s, does not accidentally express doubt toward the social sciences, as the processes of the emergence, development, and disappearance of social structures, as well as the processes of their existence, occur according to laws and regularities that are significantly different from those in nature. Social laws are more problematic than deterministic. What does the statement "Social laws are more problematic than deterministic" mean? First, there are two types of social laws: a) those that emerged spontaneously at various stages of social development and whose sources were the needs for the preservation and development of people and society; and b) laws that were prescribed by society, or by the ruling parts of society. Among the first group, some are determinant (e.g., the formation of social communities, organization, the operation of social power, stratification on various bases, etc.). The second group are not original but derived and are consistent with the social time.

Scientific laws are specific because they are knowledge about both (a) and (b).

Structuralism must be viewed and understood through at least two developmental stages and three theoretical-methodological orientations. The first, initial developmental stage we would call "scientific realism," characterized by so-called "elementarism." The second stage we would call "modern structuralism." Although it emerged in the second half of the last century, in a methodological sense it has not further contributed to the research and development of methods in the social sciences. Within this stage, we distinguish three orientations: (1) phenomenological structuralism; (2) genetic structuralism; (3) structuralism of models (according to Jean Piaget's classification).

1) Initial Structuralism - "Elementarism"

The contribution of elementarism lies essentially in its understanding of the relationship between the part and the whole. The initial position of elementarism is that every whole must be understood as being composed of parts, or factors-"elements."[8)] Initially, elements were understood as indivisible-"simple factors"-but with the development of science, elements were also understood as complex.

For methodology, the position that valid scientific knowledge can be obtained by determining the place of a factor in a set of factors and its relationship with other factors is important. This is an important position because it establishes relationships within the whole. However, this viewpoint did not grasp the qualitative particularities of the whole and the part, nor of the general, particular, and individual. Hence, despite the correct position that a structure is a set (system) of essential (substantive) factors that are functionally interconnected, serving as the basis for the existence of a phenomenon, this viewpoint does not prevent "atomization"-in which the whole is understood only through its parts and factors. Knowledge about the position, place, and relationships within a structure is insufficient to gain knowledge about the whole, because the relationships between the whole and the parts, and between the composition and structure, as well as the changes and movements of and within the structure, must also be known.

It was precisely these shortcomings of elementarism that stimulated the development of structuralism and modern structuralism. Nevertheless, the following propositions of elementarism have permanent methodological value:

(1) Every whole, during its existence, has its own structure.

(2) Every whole has its own reality. This statement holds true if "reality," especially "social reality," is not understood as strictly material and directly observable.

(3) Every phenomenon can be understood through so-called structural analysis. It is indisputable that a phenomenon cannot be scientifically known without structural analysis, but modern research shows that structural analysis alone is insufficient. It fails to address the relationship between structure and function. B. Šešić explicitly emphasizes the superiority and necessity of structural-functional analysis.

2) Modern Structuralism

Because of the views and methods of modern structuralism, the question of whether structuralism is a theory, a method, or an ideology is still being asked today. To us, this question seems irrelevant because every theoretical-methodological approach contains elements of all three characteristics. Some authors (like Supek) even reduce structuralism to an "epistemological stance"[9)] on understanding reality, which falls short of all three definitions. The basic propositions of the founders of modern structuralism, including Claude Lévi-Strauss[10)] and Michel Foucault, can be summarized as follows:

(1) A great deal of scepticism toward the social sciences, especially philosophy, which is claimed "does not exist for its own sake or with full right." This view is succinctly captured by the statement that the essential difference between physics and the social sciences is that "physics operates with symbols, while the social sciences operate with symbols of things that are themselves symbols."

(2) Structuralism strives to: "...put consciousness vis-à-vis human phenomena in a position similar to the one that the physical and natural sciences have proven is the only one in which consciousness can develop..."

(3) The fact of structure is natural, and structures, through transformation, give birth to other structures.

(4) The elimination of the subject is a methodological necessity (in our view, a methodological error), because the human and the social are determined in a dual way:

(a) A system that reorganizes itself to reconcile all differences with external necessities.

(b) Deep, subterranean layers of the spirit and are the fundamental, enduring aspects of the actions of the human spirit.

(5) At the root of everything is the ultimate nature, which is eternally unattainable, and only certain levels, their relationship, and choice are attainable.

(6) Structural analysis encompasses mathematical beings, natural languages, musical works, and myths. "Mythical analysis" is symmetrical and inverted from statistical analysis because it replaces quantitative rigor with qualitative rigor. Both can strive for accuracy if they have a multitude of cases with the same tendency toward spontaneous organization in time and space, for which a model is already given in a part.

(7) Man is subject to the subservience of living and the subservience of thinking. Degrees and types of culture alternate, and before they disappear, they transfer the essential and functional aspects to the nearest (mentioned) type of culture.

(8) The genetic code is essential, and all genomes exist virtually before the individual. The properties of the differences between animals and humans make the differences among humans negligible.

(9) The intellect-reason-achieves only constant activity. A symbolic function is necessarily placed between thought and the lived world, and thought deepens the chasm between the intellect and life.

(10) True genetic or specific differences are directly connected to the discontinuity in the genetic code. The genetic code, like language in general, is created by combining and distinctively contrasting a small number of factors.

(11) The principle of discontinuity is necessary, and classification is connected with it. Historical periods thus arise from the internal "repositioning" of factors, and this "repositioning" enables the survival of the structure. The fundamental determinant economic structure does not lose its position.

(12) The common fundamental positions of structuralism do not, however, prevent significant differences within it.

The propositions presented, within the context of the needs of scientific research methodology and meta-methodology, need to be interpreted and understood correctly. Let's take proposition 3 as an example: "the fact of structure is natural, and structures, through transformation, give birth to other structures." A statement formulated this way says something that could be accepted without sharp polemics. For natural phenomena, structures are natural in origin and existence. Social structures, apart from biological ones and those based on biological needs, are social. The biological structure of the human body in modern society is primarily a product of nature, and under its influence, the original basic unit of society-the male-female pair-emerged. But structures like the structure of government or the structure of a theater are not natural. However, if the statement means that no phenomenon is possible without some form of structure, that no system is possible without a structure, then the example can take on another meaning and raises questions about the changes and development of structures.

The task of clarifying, interpreting, and operationalizing many of the propositions of structuralism still lies ahead for the methodology of the social sciences and its branches and disciplines. After all, the very ambiguities within structuralism lead to different interpretations within it.

2.1. Phenomenological Structuralism[11)]

At the heart of this structuralism are the key propositions of phenomenology and Husserl's theories. The subject of study is objects conceived as mental, while accounting for lived experience. The emphasis is on the structures of forms. Knowledge is achieved through the simultaneous perception of the concrete and the universal, through the understanding of meaning and intuition. This happens through a psychological process that perceives the essential and retains general meaning. Contrary to the view of the need to exclude the subject, phenomenological structuralism emphasizes that the subject participates in thought; the subject grasps it. Thought has an objective dimension, and both it and objective reality are revealed to the subject. Meaning is established in the dialectical relationship between the subjective and the objective. Facts are organized based on an internal logic, not under the pressures of some external force or necessity.

The structure is understood as timeless, and thought is understood through eidetic intuition because it is not temporally defined. This temporal indeterminacy logically leads to a reservation about history, but despite this, it does not manifest a reservation toward the empirical and the meaningful. This structuralist orientation is considered one of the "lower" levels of structuralism.

2.2. Genetic Structuralism

The primary focus of this structuralist tendency is on the necessary connections that are revealed through the nature of things-objects. It opposes "static structuralism" and places an emphasis on dynamic and significant wholes. It believes that a structural definition can be reached by understanding the historical process, which logically implies an understanding of meaning and time. This is a prerequisite for understanding synchronic and diachronic structures.

The relationship between history and ethnology is understood as "symmetrical," with ethnology being superordinate to history. History is defined as a conceptual reconstruction of the past. It is assumed that the subject and object are in a logical relationship. The connections and relationships that point to the whole are also highlighted, and the elements of the structure are connected by means of meaning.

This tendency, like the previous ones, is open to the logic of content. The position that the understanding of meaning is acquired by re-examining the totality of history is very significant. This is not done by simply introducing one significant structure into another but through practice, including the structure of individuals and groups. It is justified to include Althusserian, or "Marxist," structuralism in the genetic orientation of structuralism. Its basic position on the unchangeability of the fundamental economic structure and its determinant role has already been presented.

2.3. Structuralism of Models

A key characteristic of the structuralism of models is the timelessness and historicity-independence of structure. This orientation is focused on mastering the abstract structure "as such," positioning the structure as something absolute, an abstraction with transcendental value. An object formulated this way is determined by a law (socio-scientific), and the understanding of the individual within this model is predicted.

The abstract model is defined as a mental abstraction, based on laws and a combination of elements-outside of time. The model is made up of abstract objects that are in mutual relationships, forming a model within which regularities are realized. This allows for the aforementioned relationships to be axiomatized and connected to principles that can be justified within a certain composition, where the compositions themselves are taken as the subject.

However, even this orientation has not succeeded in rejecting the role of history. The model is expressed as a certain type of temporary objectivity, and therefore it engages in temporal research and scientific knowledge. History appears as an analysis of a situation. However, the position is that the model does not return factual temporality to the subject it defines, especially not when researching phenomena. At the core of this position is the idea that facts are received "in some language" and "everything can be signified," and it does not recognize the logic of content or orient itself toward meaning.

The structuralist method, according to Lévi-Strauss's The Savage Mind, is made possible and justified by the understanding of the composition of a subconscious nature, which linguistics reveals. The logic of this orientation is a logic of orders and codes that cannot be glimpsed outside of the combination of elements, and the elements themselves are without significance. Modal structuralism insists on the distinction between the phenomenal and the essential, the surface and the fundamental. In this, it is inspiring. A significant shortcoming is its disregard for the fact that outside of people and society there is no language or linguistics. Also, many complex social relationships and structures, especially more modern ones, cannot be known through legends[12)] and linguistics, without the meaning, content, and sense of language.

2.4. The Structuralist Method

The views presented across the various stages and orientations of structuralism suggest that structural analysis is a common, core method. However, there are also clear methodological differences that manifest in the following ways:

1) The initial understanding of structuralist analysis, characteristic of elementarism, shares all the basic features of structural analysis from outside the structuralist tradition (e.g., Durkheim).

2) The understanding of structuralist analysis is primarily linked to the structuralism of models and to Lévi-Strauss, who identified two stages:

(1) Contact with lived reality: This involves a content analysis of the present and the relevant past, and fitting the known facts into a specific

meaningful whole. Phenomenological and genetic structuralism are orientations that align with this stage (or level) of structuralist analysis.

(2) Development of the analytical mind and reason: This stage involves discovering the original totality (structure) that "fits" into other totalities (structures). In effect, it establishes a relationship between the original totality-the original structure-and new, inseparable structures.

The purpose and goal of this stage, which corresponds to the structuralism of models, is to discover the properties-the structures-that are common to most human societies. The difference between the general and the common must be acknowledged, as it drives their development. Helga Galas, in her article "The Culinary Triangle," lists five methodological steps (though she mentions six) in structuralist research:

(1) The sign to be interpreted is broken down into its constituent elements.

(2) A paradigmatic type is constructed using: a) discourse; b) a comparison of discourse variants; c) a comparison of different discourses on the same topic. Constructing the paradigmatic type is the most difficult part of this method due to the many possibilities from which the most productive one must be derived.

(3) A model is constructed in which all possible expressions of the paradigmatic series have their place. The model is abstract and has no direct empirical correlate or phenomenon.

(4) The value of the empirical phenomenon's position is explained within the constructed model, where it is just one of many possible combinations.

(5) The final step is the chronology of the relationships of the paradigmatic propositions.

Throughout these procedures, the conformity of social institutions is revealed by comparing their structures (homologies) and by uncovering the equality of structures and content (analogies). Among the empirical givens (phenomena), there are no homological relationships (agreements); these are only possible among structural models.

A key feature of the procedures for constructing a discourse from a paradigm and arranging it in a syntagm is selection and selectivity. Claude Lévi-Strauss applied this procedure to his analysis of myths.

Many questions about the procedure for creating models and applying these steps remain unanswered, which makes it difficult (or even impossible) to conduct many controlled empirical studies. The most important questions are certainly the suitability and limitations of changing legends and relying on a system of abstractions. The very understanding of the model is reminiscent of Weber's (axiological) ideal type, which opens up many related questions. These are key reasons why this form of structural analysis has not gained wider application and affirmation in the social sciences.

3. Functionalism

Functionalism was one of the most widespread and influential approaches at the end of the 19th and the beginning of the 20th centuries, and it can be considered very present in scientific thought and research even today. Its attractiveness and ability to be applied transparently and directly-manifestly-as well as to "creep" into the works and approaches of many who declaratively reject and criticize it, is based on its easy acceptability and the positivist tradition and foundation of understanding society as a specific "social organism" modelled on a biological organism. The essential, fundamental concepts of functionalism-structure, role, function, system, activity, action, relationship, position, equilibrium, normal and abnormal behaviour, goals, aspirations, expectations, adaptation, specialization, control, etc.-are familiar and used in various theoretical-methodological approaches (for example, all these concepts are found with the same or modified meanings in positivism and structuralism, and some even appear in Plato and Aristotle). Their basic meaning is based on their meanings in biology. Functionalist ideas are popular and easily usable in all systems of management and governance in society, and in all systems of the division of labor in which a hierarchical and functional relationship exists. Functionalism has the properties of a theory of society, a methodological approach, and a method and ideology. Because of this, we cannot consider it to be completely coherent, although its methodological incoherence is significantly less than its theoretical incoherence. Like all other theoretical-methodological approaches, functionalism had its own developmental path.[13)]

We will discuss only the essential characteristics of the developmental stages that are significant for methodology and social research. According to this criterion, we will distinguish:

1. The transition from positivism to functionalism.
2. Developed functionalism.
3. Post-functionalism.

3.1. The Transition from Positivism to Functionalism

The origins of functionalism are most often located in the second half of the 19th century and are linked to Spencer's understanding of function as: "the relationship between the part and the whole-the contribution of the part to performing the activity toward which the whole is directed." At that time, concepts characteristic of the biological sciences, such as growth, development, integration, differentiation, and structure, entered the social sciences.

Two of his positions, still valid today, are important for scientific social research: (a) "research should be theoretically guided" and (b) "deductive propositions should be verified inductively and through comparative research." These propositions established a permanently valid rule about the relationship between empirical research and theory in the research approach phase, but they only hinted at the feedback loop between the results of empirical research and theory. However, this position is not original and is already found among positivists.

The true transition, or the emergence of functionalism, was established by Émile Durkheim with his very important works: "The Rules of Sociological Method," "The Division of Labor in Society," "On Religion," etc. His research on suicide, despite justified criticism of some of its theoretical premises and conclusions, is of fundamental importance for empirical research.

The first significant distance Durkheim established from the basic initial propositions of positivism regarding sensory-experiential knowledge is found in his understanding of society and social phenomena. He emphasized that social phenomena are of an immaterial character and have their own distinct ontological nature. A deep critical examination of this position, which is fundamental for the study of society, will lead to the affirmation of the view about the immateriality of a key dimension of social phenomena, but it will not accept the complete exclusion of materiality. People, their communities, their products and means, their environments are necessary and material. Even Durkheim himself, despite his expressed position, could not avoid the individual or the material side of social phenomena in his research, especially his research on suicide, the division of labor, and types of solidarity. The special "ontological nature of social phenomena," if not artificially separated from the individual, group, community, organization, and institution, is confirmed by both practice and theory.

Durkheim's fundamental methodological position that the causes of social phenomena and their functions should be researched separately is consistent with the view of the "ontological nature of social phenomena," but it is also in opposition to the view that they must be researched "as things." Equally important is his position that one should distinguish between causes and functions, as well as the position that social phenomena can exist without genuine social functions, and that the same social phenomena can perform multiple different functions simultaneously or at different times. Here we have a hint of functional substitution.

The articulation of the concept of "social need" as a mediator in the relationship between a "social goal" and a "social fact," as well as between various social phenomena and the "social organism," offers social researchers an acceptable conceptual apparatus and "hidden" functions, which is a suitable basis and impetus for the formation of Merton's system of functions. His understanding of "functional alternatives" is an integral part of his understanding of functions.

Also of essential importance are Durkheim's demands for the research of social causality and the development of causal analysis to uncover the deterministic foundations of social phenomena and events, as well as the transition from "organicist" to "metaphysical" thought, to which concepts like "social need," "social function," and "functional alternative" contribute.

In a methodological sense, his contributions to the development of structural and functional secondary analysis (in his work "On Religion") and causal analysis are important, as are his development of rules for comparative research, and his conceptualization of narrowing the scope of research through monographic studies, as well as his concept of connecting functional, comparative, and monographic approaches.

Although we have specifically discussed Durkheim's contribution to functionalism and its separation from standard positivism here, his work should be viewed as a whole, including his contributions to positivism.

3.2. Developed Functionalism

Although all the essential tenets of functionalism are found in the works of Émile Durkheim, we associate developed functionalism with the work of Talcott Parsons. His immediate precursors include Bronisław Malinowski and Radcliffe-Brown. Their research in social anthropology significantly contributed to understanding functions as an instrument for achieving the relationship between the part and the whole, and as an instrument of analysis. Their work also contributed to the development of comparative research.

We consider Talcott Parsons the true founder of functionalism because he strove to build a comprehensive functionalist theory of society[14)]. His starting point is fundamentally organicist, but it is less emphasized and less overt than in many other cases. Although he did not address questions of general scientific methods, he indirectly contributed to the development of the modelling method. While developing his theory of society, he presented his understanding of society and conceived of its social structure, functions, relationships, and roles, thus forming an integrated model of global human society. This is a theoretical-conceptual model that points to the necessary methodological orientation in accordance with the characteristics and requirements of the subject.

In his foundational work, The Structure of Social Action, Parsons presents the core principles for understanding human society as a complex system of social action. Despite criticisms that Parsons's view of human society was static and permanently deterministic, his statement about society as a system of social action points to a dynamic understanding of society, at the core of which are human actions that form a system. The phrase "system of human actions" can have multiple meanings and interpretations, and there is a need for further, more impartial research on it. The subsequent arguments, according to which this "system of human actions" is homogeneous, conflict-free, and functional, and is maintained through "equilibrium"-the maintenance of balance[15)]-is a key aspiration of the system. The fundamental error of this model is its emphasis on homogeneity and conflict-freeness and its linking of functionality with these concepts. At the time this model was created, Parsons did not yet see Merton's later propositions about the role of dysfunctions and latent functions, although the groundwork for this already existed in Durkheim's works.

Parsons's theoretical-conceptual model of the complex system of human society is depicted through subsystems: a) culture, b) personality, and c) organisms integrated into the social system. Within these, specific functions are realized, as are mutual interactions between them, namely: (1) adaptation, (2) goal attainment, (3) maintenance of existence forms, and (4) integration. The functions of adaptation and goal attainment offer possibilities for various interpretations. Thus, the function of adaptation can be understood as the adaptation of a personality, a subsystem, and the system to a situation, or of all subjects and to each other. This means that adaptation doesn't have to be a one-sided adjustment to the state of the system but a dynamic, mutual adaptation. The function of goal attainment also points to this meaning. It is clear that this function is very dynamic and adaptable to the changing goals of a personality, a subsystem, and the system-even in situations of "equilibrium."

At the core of this systemic model are four key units: a) values, b) norms of activity and behaviour, c) collective factors, and d) functions and roles. In this case, the connection between Durkheim and Parsons is clear in their understanding of the key factors of social cohesion (values and norms of activity and behaviour, functions), although "social needs" and "social facts" are not explicitly mentioned.

According to Parsons's theory, society is a self-regulating system characterized by actions aimed at system maintenance. The concept of "system maintenance" deserves the greatest attention, as it prompted questions: Does this concept exclude change, or does it understand system maintenance alongside and through changes that involve adaptation? No matter how abstract the theory, it is difficult to attribute to any scholar, especially one of Parsons's stature, the idea that the system of human society excluded changes within the system and to the system, despite the system's relative stability. However, he did not explain this sufficiently. The understanding that social action is motivated behaviour directed toward a goal chosen for its usefulness (appropriateness) to the subject, or based on the expectation that the goal will be achieved through a certain behaviour (action), is supplemented by the idea that an action orientation can be cognitive (pertaining to knowledge) and cathectic (pertaining to values).

The views presented indicate that balance-"equilibrium"-in the system is not maintained automatically, but that specific mechanisms exist for it: a) the mechanism of social control (norms and sanctions) and b) socialization (upbringing). These prevent deviant and pathological behaviours and deformations-in other words, all behaviours that disrupt the functioning of each subject aimed at maintaining the social system as a functional unity-through the performance of the subjects' roles. The performance of expected roles is connected into a network of contributions to system maintenance.

The system is maintained by establishing the absolute priority of the system's needs over the individual's needs. Society, the macrosystem, determines all relationships and roles. This is why Parsons's functionalism is considered "macro-functionalism."[16)]

As can be seen, macro-functionalism neglects and subordinates micro-groups and individuals, leaving it unclear who and how reaches the consensus that is the basis of a conflict-free society. This is what George Homans discovered and corrected by adjusting macro-functionalism with his "micro-functionalism."[17)] He did this by attributing a determinant role to micro-groups, which are dual systems: a) an external system that participates in the interactions between the micro-group and its environment; b) an internal system as a system of internal mutual interactions among the members of the micro-group. The micro-group is also a self-regulating system whose key factors are: (1) activity, (2) mutual interactions, (3) norms of action, and (4) values.

While it is not entirely clear what the relationship is between the self-regulation of the global system (Parsons's) and the self-regulation of the micro-group as a microsystem (Homans's), the fact remains that the structure of the social system and the autonomy within it have been identified.

Parsons made the most significant contribution to functionalism by establishing its conceptual-theoretical framework and by affirming the concepts of system, subsystem, role, function, action, and "equilibrium" as a process and a relationship. However, he did not specifically focus on the problems of functional analysis itself but rather considered it a substitute for dynamic analysis. And dynamic analysis leads to functional ("functionalist") theory.

However, by attempting to take all relevant factors into account and, in principle, enabling comparative research to empirically verify theoretical propositions, it does not stimulate the study of causes. Its strategy of applying functional analysis seeks the complete composition of a system and the resolution of all conceptual and semantic problems before researching the subject through analysis. Thus, any "problematic cause" can be "systemically applied" to all structures (compositions?) belonging to the system, which gives functional analysis great potential for explanation.

Within functionalism itself, many criticisms were directed at Parsons, with his most significant critics being Gouldner and Bailey. Miroslav Pečujlić laconically expressed the essence of the criticism with the phrase: "classical functionalism-a manual for maintaining the status quo."[18)] Parsons saw changes as disturbances within the social system, which are resolved by adapting and improving existing forms of organization.[19)]

In a methodological sense, the most developed functionalism is linked to Robert K. Merton[20)]. While the work of Parsons and his closest collaborators was primarily aimed at creating a general, universal, and comprehensive theory of human society (e.g., Parsons's assistant, Suzanne Keller, developed a theory of social elites), Merton dedicated exceptional attention to methodological problems. This orientation and the results of his work allow us to consider him not only a representative of the most developed functionalism but also the originator of late functionalism and post-functionalism.

Among the most significant theoretical and methodological contributions of Robert K. Merton, it is justified to include his advocacy for liberating scientific methodology and scientific research from ideology. With his firm, yet highly contested, position that there is no essential methodological difference between functionalism and the dialectical, especially the materialistic-dialectical, approach, and that they are not mutually exclusive but rather two aspects of the same whole, he was a precursor to so-called integral or synthesizing, developmental methodology. Miroslav Pečujlić's criticism that the starting points and theoretical positions in scientific methodology, method, and research cannot be ignored because this leads to a simplified eclecticism is justified if the roles and influences of paradigms are absolutized. However, if science and scientific research are understood as a whole that achieves its unity through unique scientific principles and their realization, and does so through a constant critical selection of the best based on verified value, then Merton's position can be accepted as correct. An analysis of the many disputes among the proponents of various methodological-theoretical approaches and within them leads us to the conclusion that all approaches have contributed to the development of scientific knowledge and its reliability, but that extreme views have not endured; they have either been softened or transformed. For example, from positivism, the necessity of empirical research has remained permanently accepted, but empirical exaggerations have been rejected. From structuralism, the demand for researching structure and the place of structural factors within it, and their interconnections, remains permanently valid.

Merton's second significant methodological contribution was in his development of the understanding of theory, its origin and role, and its relationship with empirical scientific research. A deeper analysis of his views on theory indicates that theories are not simple deductions from premises, but that the basic propositions of a theory are a thoughtful reflection based on even very distant and multi-layered abstracted experience. Not all experiential knowledge, not all knowledge gained through a sensory-experiential method is true, but only that which has been scientifically and critically selected. Scientific theory is not a static monolithic creation; it is itself a very dynamic process of critical selection, generalization, and abstraction. Merton's definition of mid-range theories, which concern only one narrow field and are based on the generalizations of multiple empirical studies, essentially claims that a general or universal theory is in scientific practice a system of many "mid-range" theories and generalizations that can grow into theories and/or that can negate parts or entire theories. In doing so, empirical research is designated as the source and the critic, i.e., the verifier, of theory.

In periods of very dynamic societal changes, the views presented on "mid-range theory" gain in importance for scientific research.

His third significant contribution was the factual overcoming of the understanding of society as conflict-free. Expanding on Durkheim's propositions about functions, Merton exhaustively addresses manifest functions (directly expressed) and distinguishes them from latent functions (hidden). Latent functions are more significant, and according to him, they are the true goal of discovery. This position of his can only be accepted in cases of very complex social phenomena or those that are emerging. For example, the functions of a family, the roles of a father and mother, and certain social organizations are manifest, even though they are essential. It is undeniable that they also have certain latent functions of great importance, but it is rare that they become (or never become) more significant than the manifest ones. In addition to functions, Merton introduces dysfunctions-which can be overcome, but which can also contribute to changes in the system-for example, parts of the system or certain functions, or even a subsystem or the entire system. Dysfunction and the reaction to dysfunction are a manifestation of the properties of dynamism, development, and changeability of society.

The fourth, and methodologically most significant, contribution of R.K. Merton is his "Paradigm for Functional Analysis in Sociology."

This paradigm contains 11 basic propositions that have a broader methodological value. Here we will list them in a shortened form in the order in which Merton presented them:

1. It is necessary to determine the phenomena to which functions are attributed. These phenomena, which are the subject of research, must be presented as standardized, schematized, and repetitive-for example, a social role, a social process, an institutional pattern, etc.

The dilemma: what must be included in the observation protocol?

Our note: Merton uses the term "observation" here in the broadest sense, not as a designation for a method. He also assumes an appropriate scientific research procedure, the final act of which is the "observation protocol," i.e., the instrument for data collection. He obviously respects Durkheim's "Rules."

2. It is necessary to define the concepts of "subjective dispositions," such as motives, purposes, and orientational values. They must not be confused with the objective consequences of an attitude, belief, or behavior.

Dilemma: In which types of analysis can observed motivation be considered data, and in which is it problematic?

Our Remark: It's obvious that a distinction must be made between motives as a cause, reason, or pretext and motives as a consequence, product, or result of a behavior or attitude. The mentioned dilemma must therefore be resolved in advance through the research design and later through the research procedures.

3. It is necessary to define (and operationalize) the concepts of objective consequences, such as functions and dysfunctions, and to establish the conceptual differences between positive contributions, motives, and objective functions. It is also necessary to determine the differences between subjectively conceived goals on one hand, and the objective consequences that are consistent with them (conditioning) or inconsistent with them (divergent) on the other.

Dilemma: What are the consequences of transforming latent functions into manifest functions?

Our Remark: The statement in this dilemma is methodologically very significant because it points to the tendency for latent functions to be transformed into manifest ones. It also raises the important question of whether the transformation of latent functions into manifest ones correlates with the degree of goal attainment.

4. It is necessary to define the concepts of units served by the function. In doing so, it is necessary to determine the scope and coverage of the units for which a phenomenon (that performs a function) produces consequences for the "unit it serves," whether these are "socially functional" or "socially dysfunctional."

Our Remark: This proposition, connected to the previous ones, is of exceptional importance because it expresses the demand for a very strict conceptual analysis in a specific sequence. Furthermore, it provides key definitions of the concept of "function" (a consequence of an activity aimed at achieving a goal-an activity that serves a purpose). At the same time, it points to the role of the structure, in which we find "units being served," "units on which consequences are brought about," and "phenomena that serve-or cause consequences." The idea of cause-and-effect relationships is also contained here.

5. The concepts of "functional requirements" must also be defined, distinguishing between needs, preconditions, etc., and specifically determining which of them are universal or specific. To achieve this successfully, it is necessary to build a system of procedures for validating assumptions about them.

Dilemma: What is needed to determine the validity of a variable such as a "functional requirement" when an experiment is not possible?

Our Remark: The concept of "functional requirement" indeed needs to be carefully examined. The concepts and realities of needs and conditions are indeed connected, but there are also significant differences between them that cannot be ignored. The satisfaction of basic existential needs is a condition for human existence and therefore a precondition for all social processes, relationships, and activities-thus a necessary, but not for all a sufficient, condition. For a certain action-a group or system of actions necessary for "system maintenance," for "serving" certain units (e.g., groups or communities of people)-other conditions are also needed, which are "specific" and more direct. In this sense, the dilemma, as Merton formulates it, is entirely justified and presupposes a scientific research foundation.

6. Functions are performed by applying-using-some "mechanism" in social processes. These must be presented in detail and concretely by

examining relatively constant characteristics such as role divisions, ceremonials, rituals, procedures, etc.

Dilemma: What is the currently available inventory of social mechanisms? What are the methodological problems involved in distinguishing between social and psychological mechanisms?

Our Remark: The known definitions and delineations of science to date, and especially of the social sciences on one hand and others, particularly psychological sciences on the other, have answered what certain sciences and their subjects are, but they have not been clear enough about where the boundary begins for what they are not. The fact that a person is a natural, biological, psychological, and social being does not make this situation any easier. No human activity in society, whether conscious or unconscious, is devoid of a psychological dimension. Merton's justified demand is difficult to fully meet.

7. There can be multiple variations of a phenomenon that, in the case being researched, can fulfill a "functional requirement." It is necessary to determine possible functional alternatives-to define "functional equivalents" or "functional substitutes" that can appear or do appear.

Dilemma: Which applicable research procedures are closest to the logic of an experiment?

8. Some elements of the social system can, and some cannot, be eliminated without negative consequences for the rest of the system. It is necessary to determine structural limitations-to define the concepts of "structural context."

Dilemma: How much does a given structural context limit the scope of variation for phenomena that can effectively satisfy functional requirements? Is there an area in which, under conditions yet to be determined, any of a wide range of alternatives can perform a function?

9. Static analysis is not inherent to functional analysis (nor to social phenomena, processes, and relationships-our remark), so dynamics and changes are studied with an analytical approach through the concept of dysfunction.

Dilemma: Does a dominant interest in equilibrium divert attention from the phenomenon of disequilibrium? What procedures allow for the assessment of the accumulation of constraints and stresses in a social system, and what knowledge allows for the anticipation of the most probable directions of change?

Our Remark: The need to study social dynamics is very important in this stated view. However, dysfunctions are an insufficient tool for predicting developmental processes, which cannot be understood as dysfunctions but as the growth and strengthening of a system and its functional capabilities. Education is a clear example of this. The question in the dilemma about "assessing the accumulation of constraints and stresses..." is also very important. It also overlooks the fact that changes are not only driven by constraints and stresses (in the standard sense) but also by developmental processes that involve the emergence of new qualities and quantities. Furthermore, one does not always have to resort to "estimation"-which is only one of the intuitive forms of measurement-as systematic measurements of tension in the system are also possible if the corresponding concepts are defined and the realities are identified.

10. Functional analysis is subject to validation by the strict establishment of procedures for sociological analysis that are closest to the logic of experimentation and by a systematic review of the possibilities and limitations of comparative (intercultural and intergroup) analysis.

Our Remark: The position presented here, which does not include an articulated dilemma, raises several questions for us, but the two most important are: first, was functional analysis understood only as sociological? Merton was a sociologist by vocation, and he understood sociology as the general science of society. However, he could not have equated sociology with all social sciences, although he saw a sociological aspect in all of them. His work on the functions of the political establishment testifies to this. Given that he demonstrated the possibilities of applying functional analysis in that example, it is not possible that he considered it exclusively sociological. The second question is whether the proposed method for establishing the relevance and value of functional analysis is sufficient. It is obviously not-especially if it concerns another social science and not just sociology; and of course, not just analysis! The validation of any method is a complex methodological research process within the methodology and methods of the corresponding social science. Similarities are not the same as identities and can be misleading.

11. Functional analysis is not condemned to ideological implications. The social position of the sociologist can influence (to what extent?) their formulation of a problem, assumptions, concepts, and conclusions derived from data.

Dilemma: How to uncover ideological influences and to what extent they stem from adopted assumptions. Is this related to status and research role?

Our Remark: The aspiration to eliminate the influence of ideology, no matter how objectivistic, is idealistic and heavily contested by actionist theory and methodology. It raises many questions about the system of orientational values and its role in science and its orientation. The very idea that science is a universal and a common good, that it should serve the well-being of humanity, etc., contains ideological, or value-laden, characteristics. Nevertheless, linking the status of the researcher to ideology makes sense in all situations, not only because of ideology but also for other reasons of an objective nature.

According to Merton, the paradigm was designed with three main "purposes." The first is for it to be a "provisional codified guide for fruitful functional analysis, as well as for the formulation of research through functional analysis." This task can be understood as a procedural guide for conceptualizing and designing research using this type of analysis. The second task is theoretically and methodologically the most difficult and complex: its execution should lead to the often tacit postulates and assumptions that permeate functional analysis. This effort is also expressed by the attempt to define and connect over fifty concepts into a meaningful order. The third task is to "make the sociologist sensitive not only to the narrow scientific implications of different types of functional analysis, but also to its political and sometimes ideological implications."

Functional analysis was often understood as being exclusively or primarily a method for qualitative research. The influence of Sorokin likely played a role in this. However, functional analysis is both qualitative and quantitative, as phrases like "to what extent," "to estimate," etc., require measurements, even if they are intuitive.

The insistence on "a logic closest to the logic of an experiment" points to strictly controlled research using adequate methods. This implies a very intensive theoretical research process, as well as a drive for functional-teleological-explanation, which is suggested by concepts like goals, purpose, and motives.

Functional analysis demands a deeper conceptual analysis and the strict definition of concepts.

It is understandable that the basic and essential concepts of Merton's functional analysis are functions and dysfunctions. In his view, functions are observed consequences that enable a given system to adapt, as well as the activities of specific phenomena that perform them. Merton distinguishes between manifest functions, which are "objective consequences that contribute to adaptation and that are intended and recognized by the participants in the system," and latent functions, "which are neither recognized nor intended." Dysfunctions are "observed consequences that diminish the adaptation of the system."

In addition to these key, central concepts, the paradigm also operates with instructive terms: system, phenomena to which functions are attributed, standardized and repetitive phenomena, social role, social processes, institutional pattern, subjective dispositions, motives, purposes, objective consequences, attitude, behavior, belief, positive contribution, canons, zero equilibrium, goals (subjectively conceived, coinciding, and divergent transformation), functional requirement (universal and specific), units served by a function, scope of a unit, the mechanism for performing a function, division of roles, rituals, ceremonial rites, functional alternative, functional equivalent-substitute, structural context, structural limitation, elements of the social system, scope of variation of phenomena, social dynamics, social change, social statics, equilibrium, accumulation (of stresses and constraints), estimation, ideology, ideological influences, and status (of the researcher). Besides these concepts, without whose valid meaning functional analysis is not possible, there are also methodological concepts, such as observation protocol, types of analysis, experiment (the logic of the experiment), sociological analysis, comparative (intercultural and intergroup) analysis, and analytical procedures.

It is undeniable that this established a paradigmatic and conceptual framework and a procedural orientation for research using functional analysis. Although it is also considered a theory, its characteristics as a method significantly outweigh this.

The next step in the development of functionalism was the emergence of the *systems approach*.[21)] The systemic conception of functionalism has its basis in the initial propositions of functionalism. The very first propositions point to the system and system maintenance as central categories. Functions are within the system and for the purpose of its maintenance; dysfunctions are a factor that disrupts the system.

The first conception of systemic functionalism appeared around 1950. Its creator was Bertalanffy, and it was, at least declaratively, humanistically oriented. Because it opposes the misuse of systems and organizations for the subordination and exploitation of people and their devaluation as a selfaware, creative personality, Miroslav Pečujlić considers this orientation to be humanistic.

"Humanistic functionalism," in contrast to the later "technocratic" functionalism, is based on the following fundamental principles:

(1) The system must be viewed as a complex whole and as an interaction between parts and the whole, and between parts and parts. The whole is more than a simple sum of its parts, and a system is, according to the understanding of the founder of cybernetics, Norbert Wiener, a whole consisting of a series of connected parts (elements) that are in constant mutual interaction and influence. Bertalanffy considers a system to be a "complexity of interacting elements," and the system interacts with its environment to maintain itself through adaptation.

Bertalanffy emphasizes "dynamic equilibrium" as an essential concept, by which he means changes within a system whose purpose is the system's survival.

An important fact for this approach is that all factors of reality share a unique property: "a union of elements considered as a whole," which allows them to be observed as systems.

(2) A system is "organized complexity," which is an essential property of systems and a basic problem of research. The premise of the system as "organized complexity" leads to an understanding of the world as a specific order, organization, whole, etc., which serves as a critique of previous understandings of science.

(3) A distinction is made between open and closed systems. Open systems are those that receive and emit information, energy (and matter). Closed systems do not. These definitions seem debatable to us and lead to the position that there are no closed systems in society. Society itself, social organizations, and institutions are open systems that communicate within themselves and with their environment. Specific machines (computers) can assist them in this.

(4) The essential subjects of research are the mechanisms of adaptation, dynamics, dynamic equilibrium, and system maintenance, which can be understood as equifinality.

(5) The relationships between parts of a system are established and maintained in a hierarchical order of centralization, domination, and control. In principle, social and natural orders are the same.

The last statement is highly debatable and cannot be sustained at all when referring to the inanimate world. Of course, this is if one excludes the effects of natural laws and does not differentiate between elemental, spontaneous, and conscious, purposeful, and goal-oriented actions.

(6) The principle of uniformity is one of the most important in this functionalist orientation. It states: "According to the modern conception, reality appears as a giant order of organized wholes-entities, and consists of a hierarchy of levels from physical and chemical to biological and sociological systems... the basic principles are general, uniform, and valid for all areas of reality... when we underline general structural isomorphisms, which are valid for all levels and areas, we simultaneously underline their autonomy, their possession of specific laws." The presented viewpoint essentially means that all wholes of reality can be observed as systems that are in some form of interaction. It is believed that there are general laws of systems that apply to any system.

Unfortunately, despite efforts at mathematization and formalization, the relationship between the systems approach and the social sciences has not been resolved. Bertalanffy believed the reason for this was insufficient knowledge of social laws, and he was very critical of the social sciences, including Parsons' theory. One can express certain sympathies for his critique of the formation of a "robotic man," just as one can oppose the, at that time unknown, cloning of humans.

However humanistically oriented Bertalanffy may have been, the fact remains that it is a holistic concept in which the system and its maintenance, equilibrium, and dynamic equilibrium remain central categories, and the presented understanding of hierarchy, centralization, etc., truly facilitates the subjugation of society to authorities.

Technocratic functionalism actually presents a technocratic conception of society, which is associated with Luhmann[22)]. His idea of a system is more abstract and generalized than the previous one. In this, numerous theoretical-methodological questions are opened, but none are resolved satisfactorily from the standpoint of the social sciences as a whole. A significant drawback of this conception is that the acting and influencing subject has been removed from the system. His assertion states: "Here, the system stands for the subject, and consciousness for the object."

Luhmann's basic positions on the subject and possibilities of scientific research provide a conceptual basis within the framework of the systemic orientation. He believes:

(1) The world is not the subject of research; rather, the subject of research is the social system in its relationship with the world. The world is a very complex environment for the system and a threat to its maintenance.

(2) People cannot master the complexity of the dangerous environment. Therefore, they are forced into a reduction in which the system plays the role of a selective reducer. The system is capable of changing its states, thereby managing to preserve its integrity and maintain itself in the environment.

(3) Multiple systems of various powers and functions constitute a single system. Within it, there is a dominant structure that perceives and understands the value-based (social) imperative. Social systems are independent of social actors because there is a superhuman imperative for the survival of human society.

As a subsystem, science has primacy within the system.

We must critically examine the third presented proposition very carefully because it is very difficult to imagine a human system-a subsystem-that is independent of "actors." An absolute imperative for the survival of society does not exist. Some societies have disappeared, and there is no guarantee that human society as a whole will not collapse or commit its own self-destruction.

(4) It is necessary to research world society as a new subject due to the increasing interdependence and complexity of technology and information. A single (Luhmann's) theory is necessary, where social phenomena are understood only from the level of the whole.

This viewpoint raises questions about the relationship between the individual, the particular, and the general, as well as the justification for concrete empirical and, within them, action-oriented research.

(5) The central problem is the constant danger to the system and its self-preservation. A reduction of environmental complexity is necessary because human actions do not resolve the contradictions caused by complexity.

During the operationalization necessary in scientific research, the concept of complexity as a cause appears as a very difficult problem.

(6) It is necessary to create a "controlled zone." "Structures of meaning" perform selection within the bounds of human potential and allow only those thoughts and actions that do not question the maintenance of the

system. The relationship between reduction and functional equivalents should be understood in this sense.

While a "controlled zone" is a clear concept whose operationalization is not impossible, the issue of "structures of meaning" and the connection between reduction and functional equivalents remain highly complicated if the subject is excluded-and "the subject is the system."

(7) The viewpoint that social systems differ from one another, and that each has its own horizon of possibilities, is acceptable. But the subsequent assertion that the world contains only possibilities that are seen from the perspective of a single system is highly debatable and dangerous.

(8) Changes (in the system) are necessary because "self-changeability cancels out variability." The foundations of change are no longer in the economy but in science, that is, the technocratic elite.

It is justifiable to ask whether science can be equated with the "technocratic elite." There is also the question of whether technology and the economy can be separated.

Luhmann's principles have also opened up other questions, such as: what is the true place of "traditional" science and scientific knowledge to date? What is the relationship between society, social subjects, and a system in which there is an increasing concentration of power and authority? How should human freedom be understood? What type of scientific explanation is possible when it comes to studies from a systemic orientation? It is not exclusively our task to provide answers to all the questions posed; rather, it is the primary task of scientific research and scientific theory. Empirical developments sharpen the questions that have been raised.

3.3. Post-functionalism

It is justifiable to ask whether, in a methodological sense, post-functionalism truly exists. Indeed, the successors of functionalism from Merton onward have not created any work of particular significance. This is why one encounters views about the end of functionalism. However, essential methodological-theoretical propositions continue to be very influential. Concepts and viewpoints on the system, functions and dysfunctions, functional equivalents, etc., are still in use and have a strong influence.

Piotr Sztompka and Jeffrey Alexander are considered the most important representatives of neofunctionalism.

P. Sztompka, a great admirer of Merton, began re-examining Merton's work in 1986. In doing so, he discovered that Merton had uncovered and understood the objective and latent patterns of social life, and since they are inherent to it, Merton's work can be used permanently. In further work, Merton's results would be labeled as neofunctionalism, dynamic or empirical functionalism, and would also be given the epithet "neo-Kantianism."

Sztompka divides researchers into those who deal with methodological issues and those who deal with problems of approach. Dealing with methodological questions tends to form an idea of what society is, rather than how society can be known.

Of particular interest is his new viewpoint that ontological assumptions have primacy over epistemological ones, as well as his advocacy for a return to old theories of individualism and holism, nominalism and realism, potentiality and actuality, etc.

Opposing the neglect of the aforementioned theories and conceptions is justified because their insights are embedded in those that came later.

P. Sztompka's representative stance can be expressed as follows: contemporary theoretical thought transcends fragmentary syntheses and forms "syntheses of syntheses" because the mutual existence and mutual autonomy of the individual and the social are recognized. It is necessary to build a multidimensional synthetic theory that will observe a unified socio-individual field. Social events are the elementary ontological entities and the ultimate elements of the socio-individual field.

The idea of a "synthesis of syntheses" is very productive-provided that other "fragmentary" syntheses are not underestimated, and such is the idea of a "unified socio-individual field." A social event, when properly formulated and identified, can be a potent research instrument.

Alexander and other neo-functionalists presented their views in the four-volume work "Sociological Dilemmas."

3.4. Critique of Functionalism

Alongside many positive receptions of functionalism (e.g., Mihailo Đurić, Kingsley Davis, etc.), functionalism has also been subjected to many criticisms. The most common (and most well-argued) negative remarks are:

(1) functionalism does not meet the conditions to be accepted as a general social theory;

(2) it does not allow for the discovery of social laws and valid scientific explanation;

(3) it is conservative and static;

(4) it is inhuman;

(5) it does not allow for the understanding and explanation of social changes and development;

(6) the paradigm and categorical system are borrowed from biology-physiology (an organicist approach);

(7) it is eclectic; it lacks originality.

Not all of the listed remarks have the same value and should therefore be critically examined. However, for any researcher, among the most important problems are the definitions and the realities to which the concepts refer. And it is precisely the central concept of functionalism-function-that shows, according to Cohen and Nagel, the most weaknesses. Functionalists use this concept in at least eight (8) different meanings.[23)]

4. Behaviorism

4.1. Early Behaviorism

Behaviorism is a theoretical-methodological school of thought[24)] that emerged in psychology in the second decade of the twentieth century. By the middle of the same century, it had developed significantly and become an almost dominant scientific and methodological field in the social and especially political sciences. Its origin and development are linked to the USA, and its growth was stimulated and conditioned by the Second World War and its consequences.

The psychological origin of this school is expressed in its very basic premise,[25)] which asserts that a stimulus, as an "external, objectively existing energy independent of our consciousness and our perception," causes behavior as a reaction. It is believed that by controlling the stimulus, behavior can be controlled. It is understandable that in this form, social sciences-which necessarily account for consciousness and will, as social behavior is not exclusively or predominantly instinctual but rather conscious and voluntary-cannot accept the aforementioned postulate but must adapt it according to their needs.

Another essential premise of behaviorism is that there is a general and basic *geographical environment* within which the social "behavioral" environment is constituted. The geographical environment is objectively given, and the behavioral one is that within which behavioral conduct takes place.

And the third fundamental premise of behaviorism is that psychology is a purely objective, experimental *branch of natural science*. This viewpoint led to many problematic consequences, as well as some methodologically permanently significant, consequences. Among the problematic ones is certainly the rejection of introspection (self-observation)-due to the impossibility of multiple observers simultaneously perceiving-observing a phenomenon. Also among them is the refusal to use so-called "mentalistic" concepts, which later led to attempts to build a special "behaviorist" language.[26)]

Among the positive consequences is certainly the strengthening of the rule on the necessity of inter-subjective verifiability for every scientific investigation. The essence of this rule is that every stage and phase of research must be exposed to public verification. The position on the need for scientific facts to be objective can also be counted among the positive consequences.

We will not dwell longer on the first stage of behaviorism's development, which roughly lasts from 1913 to 1950, as it primarily concerns the problems of psychology. The first phase of that behaviorism ends in 1930 with Watson. For the methodology of social sciences, alongside the already presented premises, the period of neobehaviorism is important.

4.2. Neo-behaviorism

Neo-behaviorism practically forms new instructive norms for scientific research.[27)] One of the essential and still valid norms is the understanding of variables, their nature, and their relationships, which requires: a) on the one hand, objective observation of the independent variable, b) on the other hand, the dependent variable, and between them, c) internal, intervening variables. Every variable must be operationally defined so that its empirical correlate can be recognized. This is a consistent adherence to the demand to use empiricist criteria for the meaning of concepts. E. Tolman supplemented the views on intervening variables with views on "hypothetical constructs."

In accordance with the above are the following basic rules of neobehaviorism: (a) strictly operational definition of concepts; (b) concepts related to a person's internal states have the status of intervening variables; (c) the "atomistic" viewpoint is rejected, and the "molar" viewpoint is accepted; (d) "mentalistic" concepts are not used; (e) general laws of behavior are formulated in simple forms; (f) theory should be built by the hypothetical-deductive path (method); (g) introspection continues to be rejected.

Neo-behaviorism further affirms human and social behavior as a fundamental category. It understands human social behavior primarily as the reaction of individuals and groups to stimuli coming from the social and natural environment. The conceptual-methodological significance of this viewpoint lies in the rejection of biologistic and any other determinism of behavior and in the understanding that the stimulus for human behavior can be in his natural and social environment-and, we would add, within himself. The reaction caused by a stimulus is not automatic, exclusively instinctual, or intuitive, but human-based on his social determination, and neither the stimuli nor the reactions are unique or strictly typified. A choice of reaction exists, which is manifested through the facts that: (a) the same stimulus can cause various responses, and (b) various stimuli can cause the same responses. Therefore, the response is a product of consciousness and the socialization of man, which has developed through human interactions. And through interactions, the social being has also been formed. The interaction between people and their consciousness are at the core of internal social unity, which was also expressed by George Herbert Mead with the idea of "taking the role of the other" and "common responses."

Cooperative with these essentially theoretical premises are the premises about action and reaction, as well as the premises about the pluralistic struggle of people (society) for survival, in which they adapt nature to themselves to a certain degree, and from a certain degree, they adapt themselves to nature, that is, to the totality of the environment. From that understanding, F. Giddings' idea of the "consciousness of kind" naturally arose, which is methodologically significant for explaining the "common response."

Even more significant for methodology are the contributions of William I. Thomas and Florian Znaniecki. They too formed, as a starting point of the research, the position that human social behavior is a product of the interaction between the individual and society, the attitudes of individuals, and their own and social values. According to this viewpoint, objective social behavior is not independent of human and social values, and thus, without a true understanding of social values, there can be no valid knowledge and explanation of individual and social behavior. The conceptual idea of behavior relies on the position that people have four basic wishes: (1) for new experience; (2) for response (sympathy); (3) for recognition (from their surroundings); (4) for security.

It is very easy to agree with the position on the mentioned wishes, except for the first wish for new experiences. In this regard, it is necessary to have at least two reservations. The first is: it is difficult to accept that all or a predominant number of people truly have a desire to undergo negative experiences as well. The second fact, concerning the ages and life stages of a person, imposes the need to approach the desire for new experiences among people of different ages cautiously and selectively.

People strive to realize their wishes through conscious activity by "defining the situation," modifying and controlling their primary desires, forming rules of action, and selectively directing their interests toward certain values.

By developing the theory of social action, Znaniecki defined social action as the elementary analytical unit of social structure and social events. Together with W. I. Thomas, he laid the foundations of the "biographical method." In the principles of this method, a significant methodological principle was affirmed: that objective truth can be learned through the statements of subjects, which leads to a softening of the strict initial methodological norms of behaviorism.

C. Wright Mills contributed to the affirmation of the concepts of social and individual roles and motivation within the behaviorist theoretical school. He understands society as a structure, and roles as the basic elements of the social structure. Thus, not people, individuals, or communities, but roles, which coincides with the understanding of the "behavioral environment." Motivations are realized through roles and are at the core of behaviors that are directed at the behaviors of other people and are repeated. In this way, a person's physiological, emotional, and social equilibrium is achieved.

Mills lists four elements of the social structure: (a) roles; (b) institutions; (c) institutional orders; (d) spheres of social action.

Roles are the motivated behavior of people (a person) directed at the behavior of other people, which is repeated. Institutions are sets of multiple roles, and institutional orders are sets of related institutions that produce the same consequences. Mills identifies five institutional divisions: (a) kinship; (b) economic; (c) political; (d) military; and (e) religious. In all institutional orders, four basic spheres of social action appear: (1) the sphere of the creation and use of symbols; (2) the sphere of technology (work, tools of labor, and production); (3) the status sphere (the acquisition and use of social position); (4) the educational sphere. The status sphere permeates the other three spheres of action and thus has special importance in the study of social structure, and it is manifested through: (a) occupation; (b) class affiliation; (c) status-which he equates with prestige; and (d) power-which he understands as the probability that an individual or group will act in accordance with the wishes of another individual or group that holds power.

By developing a conceptual system of methodological, methodical, and even procedural rules, as well as by constituting their own specific methods, behaviorists developed a sufficient theoretical-methodological basis for forming two research formulas: (1) the older one (S-R) = stimulus-response; and (2) the newer and more adequate one (S-O-R) = stimulus-organism-response. Although it can be accepted that behaviorism did not offer a complete, fully articulated theory, and that it is not internally unified, it has in fact built a very usable, field-tested system for successfully conducting research on society.

4.3. Basic Scientific-Research Rules of Behaviorism

We have already mentioned some of the research rules that belong to the conceptual framework (e.g., "hypothetical constructs," "variables," "operational definition," etc.). We will not return to them unless it is necessary.

Behaviorists emphasized the necessity of empirical research, giving it the role of an essential source and criterion for verifying scientific knowledge and, especially, scientific theories. They insisted that, wherever possible, strict quantitative procedures should be applied, but they also stressed that qualitative explanations could not be replaced by anything.

Based on research results, scientific explanations and scientific predictions can be made.

They insisted on "systematic" analyses that can be tested according to the instructions of a theory, and on replacing "descriptive" with "systematic" analyses.

The subject of research should be phenomena that can be directly observed, in which they are similar to positivism. However, the central concept of "behavior" indicates that the understanding of direct behavior is not reduced exclusively to direct sensory perception. Their orientation towards the wide use of surveys and interviews also supports this.

Social and individual values cannot be the true subject of research within this theoretical-methodological orientation, because the validity, correctness, or incorrectness of these values cannot be scientifically proven. In principle, this position seems easily acceptable. However, in all orders, there are declared values, and in all norms of behavior, we encounter orientational and moral values. Human social reality cannot be scientifically researched if the ways social, orientational, and moral values are formed, their content and direction, their role and connection with human social behavior, the forms and situations of their expression, the reasons for accepting or rejecting certain values, etc., are not also researched and scientifically understood. Therefore, this must be the true subject of research for every social science that deals with human social behavior, especially political and legal science.

An important demand of behaviorists is to remain within disciplinary research of social phenomena and not to engage in the research of "global" issues. In research practice, this has been de facto accepted in a certain way, as multidisciplinary research is very rare. Nevertheless, this viewpoint opens a series of very important questions, of which the most important seem to be: can global issues be identified; can clear boundaries be set between global issues and "disciplinary phenomena"; if they can, can general, i.e., global phenomena, be sufficiently scientifically understood based on partial knowledge? To clarify: the social position of people in a specific social period is indisputably a global issue. It is an economic, political, social work, sociological, etc., issue. Can it be researched as a whole? Don't macro-projects already exist, i.e., complex research projects with a general project, special projects, and sub-project research?

The greatest methodological contribution of behaviorists is in the development and affirmation of the so-called survey method-a method for researching behavior, which seeks to obtain the most truthful and precise data possible. The characteristics of exactness in the knowledge acquired through the application of these methods are ensured by applying all adequate operations, and for this purpose, *rules for constructing a sample* and for research based on a sample are developed. This is an undeniable contribution to the development of the modern, general-scientific statistical method and its application.

The method of inquiry, its types, the scientific conversation (the "face-to-face" scientific interview) is another significant methodological area that behaviorists developed, affirmed, and regulated. They standardized the content, forms, and procedures for obtaining empirical data through inquiry, both by interviewing (including by telephone) and by polling (including by mail survey). These rules can be applied accordingly to inquiries using other modern technical means. The aforementioned rules relate to conceptualization, strategy, systematization, standardization, the method of instrument creation, the method of communication during their use, namely the recording of answers, the conversion of non-numeric statements into numeric ones, instructions for data processing and analysis, including rules for coding and decoding, etc.

The statements of respondents (and in content analyses of documents, written statements, or other-visual, audio, or other statements in a specific artistic form) are the basis of scientific knowledge, and thus two major problems were addressed: first, the problem of the truthfulness of statements, by means of adequate samples and control questions; and the credibility of statements, by applying research strategies, and through the content, form, and procedure of the inquiry. Bearing in mind the previously mentioned problems and the problems of the relationship between quality and quantity, behaviorists set very high demands in the phase of creating a research project, insisting on its clarity, specificity, systematic nature, and planning, as well as on inter-subjective verifiability.

The commitment to the rigorous application of the rules of method and the methodology of a researcher's work is still valid in empirical research today, although certain exaggerations also cause some undesirable difficulties.

4.4. More Important Shortcomings of Behaviorism

Critiques identify three groups of shortcomings in this theoretical-methodological school: (1) conceptual shortcomings; (2) methodological shortcomings; and (3) procedural-technical shortcomings.

Among the most important conceptual shortcomings of this school, we include an extremely intolerant attitude towards all other theoretical-methodological schools, alongside an obvious failure in the effort to free itself from the ontological, historical, normative, etc., within its own conception. The mentioned elements are contained in the tacit assumption about culture and the acceptance of a high degree of correspondence between verbal statements and actual behavior.

Another significant shortcoming is the omission of the individual from the context of their environment, despite accepting the position that social behavior is an interaction between the individual and society, and between the individual and their natural environment.

A major shortcoming is also the rejection of social values as a true subject of research and scientific knowledge.

Furthermore, this methodological concept is anti-institutionalist, although Mills recognizes institutions and institutional orders as elements of the structure of society.

By emphasizing the ability of empirical research to be the basis of scientific explanation and scientific prediction, behaviorism expresses a tendency for static and cross-sectional research, while opposing the historical and global dimensions of research.

The second group of shortcomings, of a methodological nature, includes:

- unresolved issues of the accessibility of respondents, especially of certain social strata and statuses, as well as other data sources;
- the insufficiently resolved issue of the reliability, relevance, and competence of statements, and therefore the validity of data; the validity, communicability, and relevance of questions remain a persistent problem, dependent on the nature of the research, the characteristics of the interviewer, and the characteristics of the respondent;
- the inadequately resolved issue of unintentional and intentional bias or the negligent or routine work of researchers and their associates;
- the currently unresolved issue of the validity of scientific knowledge about the general and universal derived through the statements of individuals;

- the separation of information-attitude-action in a single line of behavior;

- the problem of the actual relationship between the qualitative and the quantitative and their primacy in scientific explanation;

- the problem of the relationship between psychological and social behavior remains an open question.

Alongside those listed, other weaknesses are also evident, such as:

(a) the overemphasis on the role and possibilities of methods, as well as methodological-procedural rigidity manifested through an artificial language ("behaviorist"), constructs, and overly complicated procedures for quantification and statistical-mathematical processing, which sideline the subject, goals, and purpose of the research;

(b) the objectification of questions and their protection from value judgments has not been achieved so far, and the existing instructions are not sufficiently effective;

(c) the prevailing "ideology of empirical conservatism" keeps alive the questions of the origin of premises and theories, as well as the relationship between the empirical and the theoretical;

(d) insufficient account is taken of the fact that a truthful statement does not necessarily have to be a factually true and accurate fact, as well as the fact that a false statement can be a valid indicator-a piece of data in research;

(e) it cannot be overlooked that the giving of a verbal statement is itself a form of action and must be treated selectively;

(f) the aversion of behaviorists to complex research and their syntheses, which remain outside the behaviorist concept, is insufficiently argued.

Among the most significant objections related to the technical-procedural sphere, the following can be mentioned:

(a) the costs of research according to the norms of behaviorism are too high in relation to their results and scope;

(b) the durability and validity of certain research projects can be very short-lived or be a contribution only in specific circumstances.

It is likely that other shortcomings can be attributed to the behaviorist school in addition to those listed, just as some others could be cited instead of those enumerated-depending on one's scientific-methodological starting point.

Nevertheless, despite the noted weaknesses, three essential, great contributions cannot be disputed, about which the authors of several works in the field of methodology-S. Milosavljević, I. Radosavljević, and Dž. Termiz-are in full agreement:

- first, (behaviorism) developed techniques and rules for the empirical research of social phenomena, which largely eliminates arbitrariness in the procedures of scientific-research knowledge acquisition;
- second, it developed a valid methodological basis for building theories of the so-called middle range-derived from the generalizations of the results of empirical research;
- third, by developing its rules and techniques, it increased the possibilities for connecting and interweaving various methodological schools, despite the fact that it declaratively negated and rejected them.

The cited main contributions do not remove the one-sidedness and biases that cannot be overlooked, but which other, very pretentious theoretical-methodological schools have not avoided either.

A critical and objectified relationship towards them reduces their influence in scientific-research work.

5. Historicism or the Axiological Theoretical-Methodological School

5.1. Introduction

The very title of this chapter indicates a diversity in the approach, study, and understanding of the theoretical-methodological school in question. In this regard, the first question is: is this equally a theoretical and methodological school, or is it predominantly a theoretical or a methodological school? The second question is: can the theoretical be separated from the methodological?

Let's first answer the second question. No theory can be completely separated from methodology because its exposition is necessarily structural, based on certain postulates and premises, axioms, theorems, and hypotheses; a theory is for the most part the definition of concepts and the establishment of meaningful connections between them through propositions, judgments, and conclusions. It is also necessarily a procedure of proof and refutation. A theory not only states a thesis (hypothesis) but also presents arguments in its favor and refutes the counter-thesis, also with arguments. Therefore, every theory is permeated with methodology, that is, with methods whose application it demonstrates, so the propositions of a theory often cannot be properly understood without a sufficiently competent insight and knowledge of the method and the application of methods in building the theory. However, the content of a theory and its focus can be primarily directed towards the subject matter of a science-a scientific discipline-or towards the problematic of methods of scientific knowledge about the subject of the science. It is rare for both problematics to be equally represented at the same time.

When analyzing the school in question, it is evident that the subject matter of science-the problematic of human society-has primacy in its content, but that methodological contents are essential arguments for the presented theses about society. We will also discover that the first stage (the founding stage) of this school has primarily and predominantly the properties of a theory, while the second stage (the stage of development and greatest influence) emphasizes the problematic of method and its application. Therefore, viewed as a whole, it is indeed a theoretical-methodological school.

Some philosophers, logicians, methodologists, and sociologists (e.g., Bogdan Šešić) believed that this school could also be classified as positivistic based on many of its provisions. Viewed as a whole, all theoretical-methodological schools that rely on empirical scientific research necessarily contain provisions that can, to some extent, link them with positivism. Namely, empirical research is primarily based on experiential, sensory-evident knowledge and data. However, it must be recognized that this school *emerged as an opposition to crude positivism and empiricism*; moreover, in some segments, it is idealistically overemphasized in this regard.

Let us now return to the first question, although an implicit answer has already been given. It is a balanced theoretical-methodological school when viewed as a whole. In its founding stage, it built its theoretical postulates; in the stage of development and culmination of its influence, it formed, or at least laid the foundations for, its own specific methods and clarified its relationship to methods characteristic of other theoretical-methodological schools. It is precisely this development of the school, in which each stage has its own characteristics, that leads to two titles. The first stage is the basis for the name "historical...", the second for the "axiological" theoretical-methodological school.

5.2. The Origin and Basic Tenets of the Historical Theoretical-Methodological School

Wilhelm Dilthey is considered the founder of the school with his works "Introduction to the Human Sciences" and "The Construction of the Historical World in the Human Sciences" at the end of the 19th century.[28)] In them, Dilthey presented a philosophical conception, theoretical postulates, and methodological understandings of the construction of the historical world and the human sciences. The following three of his tenets are essential for methodology:

(1) the subject of the human sciences is the spirit (mind), just as the subject of the natural sciences is nature;

(2) the human sciences are empirical sciences;

(3) the fundamental method of all human sciences is hermeneutics.[29)]

These three tenets, viewed together and individually, still cause much confusion today about the possibilities and ways of their application in scientific research. In this regard, at least the following scientific-research problems can be noted:

(1) How to define spirit and connect the concept of spirit with social realities while preserving the complete distinctiveness of the spirit?

(2) What are the empirical manifestations of the spirit? Namely, the empirical character of a science implies knowledge gained through sensory experience, which presupposes the existence of adequate sensory-perceptible realities.

(3) How to methodologically adapt hermeneutics as the fundamental method of the human sciences when it is still a theory of understanding and interpretation?

Further expositions by Dilthey and his like-minded thinkers Gabriel Tarde, Vilfredo Pareto, and even Windelband, H. Rickert, and O. Spengler did not much clarify the basic idea. Windelband's attempt, by forming the so-called "idiographic method," in a certain sense contributed to clarifying the understanding of the subject of the "historical human" sciences. Namely, the subject of research with this method are ideas and values that are described and interpreted, but no special techniques for obtaining data for the needs of this method have been developed.

This is the reason why Dilthey's conceptions, expressed through the standpoints that: (a) society consists of conscious individuals connected in a system by interpretations and psychic relationships; (b) there are essential, even insurmountable, differences between the methods of the natural and social sciences (human sciences) due to the characteristics and properties of their subjects; and (c) it is necessary to understand the inner life and human activities that have meaning for them, are the only ones that have left a lasting impact on methodology.

The difference between the subject matter of the natural and the human sciences is that the subject of the human sciences is the realm of human conscious, essentially spiritual activity, whose essential feature is meaningfulness and significance. The subject of the human sciences is the sphere of values, which are ideal and valid independently of the material world. Furthermore, their subjects are individual, whereas the subjects of other sciences are general and belong to objective phenomena.

A subject defined in this way cannot be explained empirically or derived from empirical experience, because descriptions and causal explanations based on external observation are not possible. On the contrary, it is necessary to grasp the conscious goals, the meaning, and the role of values in human conduct. An understanding of human activity and social events is necessary.

There is no doubt that human and social action cannot be sufficiently understood and scientifically known without a certain knowledge of consciousness, motives, goals, social values, etc., which this school affirms as a requirement. But it is also true that individuals and communities do not have identical consciousness, motives, values, goals, etc., and that human action (and behavior) is not exclusively conscious, and it also manifests in various ways, and that which is manifested can be observed. This, after all, was also noted and, to a certain extent, corrected by Max Weber.

The other standpoints did not have a more significant methodological influence, except that several sociological theories of an individual-psychological orientation arose based on them or with their encouragement.

Dilthey's presented views point to his nominalistic-individualistic approach.

5.3. Max Weber's Developed Axiological Method

Several authors have dealt with the problematic of this theoretical-methodological school, among whom Brodbeck holds a significant place, and Gadamer's book "Hermeneutics" was once translated in Sarajevo. However, it was Max Weber who, through several of his theoretical and methodological works and certain research, developed and in a sense concretized the *method of understanding*, which is considered the fundamental method of the axiological school. He also built and applied the *method of the ideal type*, which can be understood both as a technique-an instrument of the method of understanding-and as a separate method.

M. Weber also articulated a series of views on society and functional definitions that explain the foundations of the possibility of the method of understanding and empathy (entering into the experience).

Although he remains fundamentally on an individualistic conception, he does not overlook the roles of groups and collectivities.

Essential for studying Weber's standpoints on society and the methods of its research is his synthetic, two-volume work "Economy and Society," spanning over 1200 (one thousand two hundred) pages.[30)] It is not possible to present the entirety of Weber's understanding in detail in a very limited space, but we accept the risk of briefly outlining the essential provisions of his work in the sphere of methodology.

A) M. Weber's Postulative Views on Society

According to M. Weber's understanding, society is a product of human activities, interpretations, and intentions, a spiritual creation, and fundamentally a network of psychic interactions. Society is moved by the motives, ideas, and goals of people, and social phenomena have meaning for people.

By its essential provisions, society is a special reality within the reality of nature, from which it fundamentally differs. The source of this difference lies in its composition, which consists of *conscious*, *active* beings. Hence, the behavior of individuals, which has internal meaning and sense, is the essence of every social phenomenon. The behavior of an individual is directed at provoking a corresponding behavior in other people.

Social phenomena, like society itself, are networks of psychic relationships; they are unique and unrepeatable because they are cultural-historical. The causes of movement within phenomena, as in society, are fundamentally individual motives and goals.

Society and social phenomena can be scientifically known if they are understood, if one can "live into" them.

In the presented views, the basic propositions of Dilthey can be recognized, and it is necessary to point out the problematic nature of some of them.

It must indeed be accepted that society and social phenomena are networks of psychic relationships-but not only of them. Social relationships are much more complex and contain a multitude of factors, of which psychic ones are only one complex and not an immediate component. Also, it is true that society consists of a multitude of individuals, but an individual acts differently within a group and a community, and especially within an organization and an institution than outside of them.

The assertion that motives are the drivers of action and behavior-of people's movements-is also correct. However, motives must be specified because they cannot be understood in a completely general way. Namely, there are hierarchies of motives and contradictions between motives. If goals are added to this (as a kind of concretization and operationalization), then motives must be approached with great caution.

It should also be noted that the consciousness of all individuals and about everything is not even approximately equal, and that the actions and behavior of individuals are not always truly conscious, much less voluntary, but are often coerced and a consequence of violence.

The aforementioned remarks lead to the conclusion that the reaffirmation of the individual in the study of society is very significant, but also to the conclusion that society cannot be scientifically known exclusively through the individual.[31)]

The essential method of the axiological school is the *method of understanding*. The categorical concepts of this method are usually listed as: *behavior*, *interpretation*, *understanding*, *meaning*, and *sense*. But the concepts of *comprehension*, *expectation*, etc., are no less significant, and they cannot be understood without definitions and propositions about the factors of society.

One of the essential definitions is that of the concept of "community": According to M. Weber, a "community" is (should mean) a social relationship-if and insofar as the orientation of social action (in an individual case, on average, or in a "pure type") rests on the *participants' subjective* (affective or traditional) *feeling of belonging to one another*. Thus, community is based on a feeling of belonging.

Belonging and the feeling of belonging are not specified. A prisoner, a slave, a camp inmate also has certain feelings of belonging to the prison, the slave owner, the camp, but this is not a feeling of belonging based on their own, voluntary decision. The second question relates to the definition of community. Can a "coerced," "forced" community be considered a community without special specification and without specifying the basis and type of belonging?

For research and science, concepts with very broad meanings are always an additional challenge.

The presented definition might be satisfactory if it refers to some types of voluntary communities, but even there, not to all of them. However, there are also forced and coerced communities for whose members a feeling of non-belonging can also be characteristic. In that case, the given definition does not have an adequate instrumental function in the method of understanding.

For the comprehension of the concept of the method of understanding, a correct grasp of two more key categories is essential: *social value* and *social action*. From Weber's statement: "It is the fate of a cultural epoch which has eaten of the tree of knowledge to have to know that we cannot learn the meaning of the world from the results of its analysis, be it ever so perfect; it must rather be in a position to create this meaning itself. It must recognize that world-views can never be the product of advancing empirical knowledge, and that the highest ideals, which move us most forcefully, are always formed only in the struggle with other ideals which are just as sacred to others as ours are to us"... it follows that values are not a product of experience, that they themselves are in fact ideals or attitudes derived from them, and that they are the most powerful drivers. All people have their ideals, their values, and these values are not and cannot be a unified system for everyone, which is manifested through a certain struggle for the realization of the ideals of value. In doing so, they make a choice of values-they establish a relationship with them, interpret them, and create new ones. Everything is directed by values.

If we understand values as a system of beliefs and convictions and the aspirations based on them, and if this is a dynamic system produced by people, Weber can justifiably be criticized only for excessively separating values and ideals from people's experience. Ideals themselves are abstractions and generalizations of manifold and long-term experience, interpreted and expressed in various ways. If ideals and values are a product of human society, what, other than social experience, is the possible basis and source of their ideals? Of course, if experience is not reduced only to the immediate, material, and sensory!

An essential, central concept is also *human action*,[32)] which is only one form, one type of human behavior. Weber says: "Social action (including forbearance or suffering) may be oriented to the past, present, or expected future behavior of others...", and can be determined as:

(1) *goal-rational* - when one acts in accordance with expectations of the behavior of objects in the external world and of other people. This expectation then appears as a "condition" or as a "means" for achieving one's own rationally formed goal; (2) *value-rational* action is based on and oriented by a belief in the specific absolute value of a certain behavior. This value is a "value in itself" and is independent of the success of the action; (3) *affective*, when one acts in accordance with current affects and social states. These actions are primarily emotional and often reactive; (4) *traditional* - when one acts according to established habits.

Actual regularities are indeed characteristic of social actions. Certain actions and their courses are typically repeated with the same intended meaning by the same acting persons, or can be observed simultaneously in a larger number of other acting persons. If we connect this understanding of action with views on values and goals, solidarity and conflict, groups, communities, the state, authority, social openness and closedness, etc., we arrive at the postulate of Weber's understanding of the foundation of the method of understanding and its justification as a method of scientific knowledge. This postulate can be presented in a simplified way as follows: (1) society, social phenomena, and social communities exist as "networks of psychic relations," but not only psychic but also diverse social relations; (2) they are composed of conscious, active individuals who have their own motives, goals, aspirations, and who, in a specific cultural milieu, create sense and meaning, ideals, and orienting values; (3) individuals strive through their actions to realize their ideals, goals, and aspirations, and thus their action is directed by expectations towards the behavior (action) of others; (4) action-behavior is repeated and exhibits certain regularities, there are certain typical features, which is the basis for certain actions and expectations to be interpreted and understood, and to be responded to with a meaningful answer that has significance for the subjects.

All subjects, more or less, repeatedly and over a long period, in a roughly same cultural environment, participate in action, acquire experiences and knowledge, become acquainted with typical and established customs and norms, and on that basis, understand one another.

On such a formulated social basis, the method of understanding is possible.

B) Weber's Method of Understanding

For Weber, understanding means grasping a specific action. He distinguishes three types of understanding: (1) *actual understanding*; (2) *average understanding*; and (3) *ideal-typical understanding.*

(1) *Actual understanding* is concrete, subjective, and its meaning is also subjective and intended (the acting subject assigns their own meaning to it according to the intentions, goals, and values of that action). Here, there is reason to note that there is no mention of the meaning assigned to the action by the subject towards whom the action is directed.

(2) *Average understanding* can be understood in two ways. First, as the action of multiple subjects that is approximately the same or very similar; it is an average social action that is approximately the same in a multitude of cases of action. The second, less likely meaning, is the approximately same action by the same subject in a multitude of approximately same situations.

(3) *Ideal-typical understanding* is merely a conceptual construct, without a direct connection to any real behavior.

The meaning of understanding is, as can be seen, one of the essential factors of the method of understanding. According to Weber's view, we can distinguish between phenomena and objects without meaning and those with meaning. Meaning is the sense of a specific action, but it does not exist as objectively correct. The ability to imagine another's action based on one's own is not a sufficient precondition for understanding that action. Not even a complete experience of another's situation is an absolutely sufficient condition for intellectual interpretation.

Interpretation is an essential factor of the method of understanding in the cognition of meaningful action and its significance. It can be *rational* and *intuitive*, if the action is *intellectually understood* in a given context of meaning. An example of this are mathematical and logical statements in a specific context.

Understanding also appears with two possibilities: (a) direct understanding of the intended meaning of an act, which includes making a statement. This type of understanding implies a certain degree of immediacy and a concrete relationship with the current action, primarily referring to the direct, temporal determination of the action's occurrence; (b) understanding through explanation and through motives. For certain, already repeated actions, we have an already formed comprehensible meaning.[33)] In connection with them, we also know certain contexts. When contexts, motives, and the performance of the action are connected, we arrive at understanding based on explanation.

The objects of understanding (all based on interpretation) can be: (a) individual cases of actually intended meaning, or, when historical observations are in question, in the context of meaning; (b) cases of average meaning or context of meaning (e.g., when layers, classes, or masses of the population are observed sociologically); (c) "ideal-typical" meanings or contexts of meaning that science needs to construct as a pure (ideal) type of some frequent or significant phenomenon.

Interpretation does not exceed the level of a causal hypothesis of emphasized evidence. This is the result of limiting factors expressed as: a) motives ("unconcealed" and "concealed") and various "repressions"; b) possible different contexts of completely identical or similar phenomena; c) the simultaneous action of opposing impulses on people, etc. The verification of the comprehensible, meaningful interpretation through the result, which is the procedure for all hypotheses, is necessary here. But-what is truly the "result" here, and what procedures are genuinely possible in this?

The aforementioned questions also led to pointing out some acceptable "techniques and procedures" of the method of understanding, which could by no means be reduced solely to a psychic and mental-intellectual process. Action and behavior are manifested, contexts are empirical, and they must somehow be ascertained and recorded. Without them, their meaning does not exist. Thus, we arrive at the conclusion that "functional observation" is useful in the process of understanding. It is "external observation" by which we grasp (in fact, comprehend and typologize) the functions of particular types of individuals. Does this point to functionalism and positivism? Individuals, with their properties and activities, are sensory-perceptible, and they perform functions-all of which can be discovered by "external observation"! This is not considered sufficient. One must also find out (a) what decides the outcome of the differentiation of individuals and (b) what leads a differentiated individual to behave (on average) in a way that supports the maintenance of the differentiated group. Therefore, reasons-causes are sought!

Functional observation can be understood as a two-stage process. The first stage consists of forming "functional questions" through two phases: (a) discovering the action important for the functional maintenance of a specific type of oriented action; (b) which motives determine it and how that action arises. The second stage consists of the realization of functional observation based on the previously articulated questions.

Through observation ("functional observation"), the *typical chances* of a certain social behavior that *can be expected* (i.e., the probability) in certain circumstances are discovered. "Typical chances" can be understood on the basis of "typical motives" and "typical intended meaning." And when we have connected all these typical elements-from typical circumstances, through typical motives and typical actions-we have received an incentive to consider *social laws* in explanations using the method of understanding.

The interpretation of action with the inevitable "collective concepts" has the following necessary relationships: (a) in building its own terminology, it necessarily uses collective concepts; (b) collective formations (which are also the content of collective concepts) are propositions about something that truly is, and partly about what ought to be; (c) it uses them in practical presentation and provisional orientation and when discovering the social action whose understanding through interpretation is important.

The individualistic orientation could not foresee the collectivity of society and avoid collective concepts.

M. Weber's research practice led him to acknowledge the (admittedly limited) usefulness of: a) the results of psychological experiments; b) statistics-in the research of mass phenomena; c) the comparison of historical phenomena or the comparison of everyday phenomena; d) the "thought experiment"; e) the causal interpretation of a concrete action when the external course of the action and the motive in the given context are truly comprehensibly known-which is not possible without "external observation".[34]

Finally, let us conclude: Weber successfully demonstrated the inevitable role of "external methods" in the method of understanding, instead of the impossibility of their use (Dilthey's view).

C) Weber's Method of Ideal Types

It is advisable to understand the method of ideal types as a special form of the general method-more precisely, of the methodological concept of understanding, or as its "special case".[35] The basis for this is Weber's stated view that the most penetrating way of achieving understanding is achieved by constructing ideal-typical phenomena, or ideal-typical action, along with the precise definition of relatively empty concepts.

In this exposition, we will disregard the possibility of treating the method of ideal types as an instrument of the method of understanding, precisely because of the fundamental conception, the attributed forms, the manner, and the role of ideal types in scientific knowledge. Namely, the method of understanding, apart from "functional observation" and empathy (entering into the experience), did not affirm any method of data acquisition nor any instrument.

Let us consider the idea of the method of ideal types by M. Weber himself, bearing in mind that the scientific-methodological community itself is divided on this issue.

First, M. Weber, when speaking of concepts, clearly distinguished the ideal type from general typical concepts of genus and class. However, he proved the explicit and declarative negation of the relatedness of general typical concepts and the concepts of the ideal type by the absence of any connection with real social phenomena, and he himself formed several ideal types-e.g., of action. Action is a social reality, and no matter how abstract the concepts were for us, they are not empty nor could they, due to their subject matter, lose their connection with the phenomena of social reality.

Posing, but not elaborating on, the gnoseological foundations of the method of ideal types, Weber explicitly claims that the ideal type does not arise from generalization, and thus is not a description of real social phenomena, nor a general concept of genus or class-it is not even a hypothesis. The ideal type is a utopian concept, an "idea," an abstract mental construct by which properties are one-sidedly emphasized from a specific theoretical (or perhaps also value-based?) standpoint. There are two kinds of ideal types: universal and historical, the latter of which is factually narrower in scope.

The process of constructing ideal types can be presented as follows:

(1) an idea or concept of a phenomenon is formed;

(2) one or more properties (one or more points of view) of the subject phenomenon are one-sidedly emphasized;

(3) since this is not a real, concrete phenomenon, it can relate to a multitude of discrete concrete phenomena about which certain knowledge exists. A synthesis of existing knowledge about them is performed;

(4) a unified analytical concept is formed-the ideal type-which represents no truth, neither a historical nor a true concept of reality. According to Weber's claim, an *abstract theoretical model of a certain kind of social phenomenon* has been created. But, according to the presented understanding, it is not truly a representative or average model of these phenomena, but is an abstraction in two senses: first, in the sense of the generality of the statement and its validity, and second, in the sense of complete separation from the concrete-the individual and the particular. In addition, with one-sidedly emphasized properties selected by arbitrary criteria. Namely, M. Weber is explicit that there are no objective criteria for the choice of the research subject-thus, neither for the choice of the phenomenon and properties that will be treated as an "ideal type."

All the efforts of M. Weber on the one hand, and his harsh critics on the other, to completely separate the ideal type from reality and thus either isolate it from other methodological schools or devalue its real research possibilities have not been entirely successful.

The facts are as follows: (1) the "ideal type" is a model of a certain idealized reality, of its one-sidedly overemphasized properties-extreme, real, and value-qualified; (2) the "ideal type" is an excellent analytical-prognostic model that allows for the wide and successful application of the "thought experiment"; (3) in everyday life, we are constantly encountering ideal-typical idealizations, from religion to the norms of the social, legal, and moral-value system.

The ideal types of association, action, authority, the role of religion, and others that M. Weber himself created clearly testify to this.

Given that there are at least three types of "type" concepts (according to Hempel): (a) classificatory, (b) extreme /dwarf-giant/, and (c) ideal type, it is important to know that in research using the "ideal type," the essential procedures are: (1) a certain kind (thus not a single phenomenon) of social phenomena is ideal-typed; (2) the formed ideal type is brought into relation with the researched phenomenon by comparison, determining the deviation of the real characteristics of the phenomenon from the ideal type; (3) from the basic ideal typification and knowledge of the real subject phenomenon, a series of judgments is derived according to the schema of the hypothetico-deductive method.

5.4. Critique of the Axiological Theoretical-Methodological School

The contribution of the axiological theoretical-methodological school can be summarized in the following few methodological propositions:

(1) Axiologism clearly and argumentatively pointed out the differences between natural (including biological) phenomena on the one hand, and social phenomena on the other, and thus also pointed to the necessary differences between them as subjects of science and the resulting consequences for the methods of science and research methods;

(2) It reaffirmed the role of the individual in society, thereby opposing the holism that prevailed in parts of positivism, and which was particularly pronounced in structuralism and macro-functionalism, as well as in behaviorism;

(3) It emphasized the distinctiveness of society and of human activity in the realization of human society;

(4) It affirmed consciousness, motives, goals, and values in the functioning and development of society, in relation to solidarity and conflict as properties of human society;

(5) It emphasized that society and the movements of and within society cannot be truly known without sufficiently reliable scientific knowledge about the needs, consciousness, intentions, expectations, and internal stimuli for people's actions and behavior, pointing out the difference between social action and human behavior;

(6) It formed and articulated the method of understanding, the method of ideal types, and "functional observation," pointing to the mutual dependence of the method of understanding and the methods of "external observation";

(7) M. Weber's considerations on society and method significantly contributed to the emergence of Parsons' theory of functionalism.

Only the evident contributions of the axiological school are presented here. Our knowledge leads us to the conviction that this school has not yet been sufficiently researched, especially from the standpoint of significant changes in the movements and characteristics of contemporary society in a situation of the development of new technologies, media, and communications, and the tendency towards globalization. It seems to us that the possibilities for using ideal types and Weber's propositions on the relationships between consciousness, values, and action are much greater than contemporary, current theories and methodologies perceive.

Like any other theoretical-methodological school, this one also has certain shortcomings and weaknesses. Disregarding objections of an ideological origin, we must point out the following of its, to our knowledge, most important objective weaknesses and shortcomings:

(1) An overemphasized psychic component in the consideration of society and an insufficient differentiation between the psychic and the social. This is clearly seen in the concept of the method of understanding, the comprehension of empathy and lived experience, and the absence of clear distinctions between psychic and social phenomena;

(2) A pronounced and overemphasized individualism and nominalism that does not sufficiently appreciate the new qualities of the mass, group, community, and other contents of "collective concepts," although they could not be avoided;

(3) A certain neglect of the role of objective material factors and products of society, as well as the objective environment;

(4) Insufficient explanation and an absence of operationalization of the methods of understanding and ideal types, and an insufficiently defined and unargued expression of the relationship between the evident and manifest on the one hand, and the rest on the other, that is, between the methods of external, empirical observation and empathy and understanding. There is an evident contradiction

between declaring this school as empirical and denying the possibility of knowledge through "external observation";

(5) An underdeveloped conception of personal and social experience on the one hand, and empathy and understanding on the other, given that concepts like "oriented to others," "expectations of others," "instrumentally rational behavior," "average understanding," etc., are laden with social and personal experience;

(6) The methods of this school did not form or more closely define the necessary techniques for their application.

Despite all the listed and other shortcomings, the essential methodological knowledge of this school, consciously or intuitively, permeates the methodology of the social sciences and the research of social phenomena.

6. The Dialectical Theoretical-Methodological School

It is very difficult to understand the dialectical theoretical-methodological school as a unified-or rather, a single-school, due to the multitude of segments and mutually opposing sub-schools, as well as the fact that its creators did not specifically elaborate on it. This is quite unusual, considering that its roots can be found as far back as Heraclitus's dialectical logic of contradiction.

During the 19th and 20th centuries, the dialectical methodological and theoretical orientation played a major role in Europe, Africa, and Asia, but with a strong ideological connotation. In that period, the following concepts within the dialectical school were most often considered: the ancient, the idealistic-Hegelian, the Marxist-"real-dialectical," including Lenin's theoretical-methodological orientation, the revisionist variant, and the so-called critical orientation (with the "Frankfurt School" and Adorno's "negative dialectics").

The contemporary social and scientific situation directs us to a more concise exposition of this school, that is, to an elaboration of the essential provisions of Hegelian dialectics and the real dialectical school, which were among the most influential during the twentieth century and which left significant contributions in logic and methodology.

Bogdan Šešić (and with him Mihajlo Marković and Miroslav Pečujlić) is the only one who made an effort and successfully codified the basic essential methodological propositions of the dialectical theoretical school, so our exposition will rely significantly on him.[36)]

6.1. The Hegelian Idealistic Dialectical School

Hegel is counted among the true creators of the developed foundation of dialectical thinking, and his most important works in this field are: "Phenomenology of Spirit," "Science of Logic," and "History of Philosophy"- through which he demonstrated his understanding and the possibilities of applying dialectics. In logic, Hegel's essential contribution is the introduction of a change to bivalent logic, which only knew two polar values: true and false; is and is not. By introducing a third, dialectical, valence, which speaks of the possibility that something simultaneously both is and is not, Hegel opened the way for the development of trivalent and polyvalent logic. This is, according to the understanding of dialecticians, the transition from formal, bivalent logic to dialectical, polyvalent logic.

Hegel's most important methodological contribution is his articulation, understanding, and definition of contradiction and internal contradictions, and his views on method.

He defines contradiction as the struggle of the strongest opposites that mutually exclude each other, so their conflict is resolved by the annihilation of one of them or by overcoming it. From the standpoint of research needs, the understanding of the differences between opposites that are mutually exclusive and opposites that coexist, that is, which appear as a mutual condition for existence (for example, positive and negative gender, male and female sex, etc.), is of exceptional importance.

Hegel understands contradictions as a property of every social and natural phenomenon, and he distinguishes between external and internal contradictions. External contradictions are the relations of opposition between a phenomenon and its environment, or between various phenomena. Internal contradictions are those within a specific phenomenon, such as the contradictions between content and form, between individual factors, between functions and dysfunctions, etc. For the research and knowledge of society and social movements, the obligation to understand and define social contradictions is essential, which is a very difficult and complex task. This is all the more so because in society, the overcoming of a problem can and often does take place as a long-term, multi-layered, and multi-stage process, and overcoming as a solution does not necessarily contain the annihilation of one of the conflicting parties.

Another important reason for a subtle approach to social contradictions is expressed through three of Hegel's decisive standpoints: first, all phenomena are developmental, and accordingly, human society is developmental; second, human society is a self-made-generic-creation of humans, that is, it is the activity of humans themselves; third, internal contradiction is the internal driver of movement and development-which also applies to society. This, as can be seen, is a completely different standpoint from the concepts of a harmonious society. The significance of these views grows when one keeps in mind that Hegel also affirms the *concept of a system*. He understands a system as the form in which truth exists-and truth as a scientific and logical system. The presented understanding of a system does not prevent the relative application of the concept to society as well.

Therefore, the logical standpoint is that the essential determination of all processes and relations is dialectical interconnectedness.

With his understanding of society, Hegel offers a usable postulate for approaches to researching social phenomena and processes. History begins with man, and he understands man through his action, neglecting his naturalness-because that belongs to nature. The human is only that which man produces through his action and reason. It is obvious that consciousness plays an essential role in this, as it is the decisive factor in man's ascent, which begins with consciousness at the level of sensory certainty, grows through observation and perceptions, and reaches reason-mind, spirit, religion-even "absolute knowledge." This otherwise convincing understanding of the history of human society lacks a connection with the history of nature and with the interdependencies of the history of society and the history of nature. And that interdependence is increasingly obvious. And the essential factors of knowledge are the concept and the idea.

The *concept* is an exception to the general rule. It is developmental, but it does not develop based on internal contradiction, there is no transition from one to another, nor is there reflection.

He even forms a triad about the concept which contains the members: a) subjectivity; b) objectivity; c) idea.

The *idea* contains all determination within itself, and nature and spirit are only different ways of presenting the existence of the idea. The highest way of understanding the "absolute idea" is philosophy.

The presented standpoints are a stimulus for many ongoing disputes, critiques, creations, and reflections, all the more so because the view of nature as an "alienated idea" is added to this.

Hegel highly valued the method of thinking, and this attitude can also be applied to research methods. Namely, philosophy directed Hegel to the problematic of thought-and at that time, only the first hints of modern empirical research were emerging. Let us cite a few of his key statements: "Method may, at first, appear to be a mere manner of cognition, and it has, in fact, the nature of such a manner. But the manner is not only a modality of being determined in and for itself, but as a modality of cognition it is posited as determined by the Notion and as form, inasmuch as form is the soul of all objectivity and inasmuch as every otherwise determined content has its truth solely in the form." Then he says: "...method is soul and substance, and anything whatever is comprehended and known in its truth only when it is completely subjugated to the method; it is the proper method of each and every thing, because its activity is the Notion. This is the true sense of its universality; according to the universality of reflection, it is taken as the method for everything; but according to the universality of the Idea, it is not only the manner of cognition, the manner of the Notion that knows itself subjectively, but also the objective manner, or rather the substantiality of things-that is, of Notions, in so far as they at first show themselves to representation and reflection as others." And further: "Therefore, method is the highest force, or rather, the sole and absolute force of reason, but also its sole and highest way to find and know itself in everything."

Hegel also dealt in a specific way with the problems of "observing reason," with quality as determinateness, with quality and quantity, with measure and proportion. Already in Hegel's considerations, we find the basis for a broader understanding of method than the usual one and for a critical attitude towards the dispute between the proponents of the "qualitative" and "quantitative" approaches.

Hegel's dialectical method is considered the basis of the concrete (materialistic) method, but Marxists nevertheless consider it idealistic and speculative. The reason for this is that he sees the basis in pure thought, and thus everything is derived from the concept. The entity of the world is spirit. If one disregards Hegel's previously presented understandings of man and society, consciousness, idea, and action, this standpoint is easy to criticize from a materialistic viewpoint. However, if one recognizes Hegel's distinction between the world of nature and the human world, and the role of consciousness and the action of man and his ideas, then his pointing out that the consciousness of people is primarily a world of consciousness, ideas, and human achievements makes it easier to understand his placement of the idea in the foreground. Reason, consciousness, ideas mediate between the "natural" and the "social" man in his "self-generation" through dialectical relations in the process.

A very widespread objection to Hegel's method is also its abstractness. This objection relies on the claim that Hegel does not derive his propositions from the real world, but that its basis is in concepts-categories, and thus it is a "dialectic of logical categories." Indeed, in Hegel, one finds categories: being-non-being; identity-non-identity; contradiction-non-contradiction, absolute negation, etc., which have no footing in reality. However, in connection with this objection, however justified it may be, one should keep in mind that Hegel recognized the objectivity and substantiality of concrete reality, but he especially emphasized its dialectical relationship with reason and truth through the mediation of knowledge. For methodologists and scientists-researchers, a proper understanding and operationalization of "mediation by knowledge"-we would add "by method," is of particular interest.

The attempt to form and express knowledge and to express contradiction and the transition from one to another through triads is also attributed to Hegel's work as a weakness. The most successful triad can be considered the triad about the relationship:

a) thesis ➔ b) antithesis = c) synthesis,

which has contemporary functional value, but which cannot be applied to all concrete social cases. The situation is similar with the triad:

a) position ➔ b) negation and c) negation of the negation.

The negation of the negation can be understood in at least two basic meanings: a) as the negation of the negative and through that the emergence of the positive (as in mathematics: minus and minus make a plus); b) as a relationship in which the "negation of the negation" in social practice does not have to cause only a positive but also a reinforced negative consequence.

Metaphysicalness is another of the objections to Hegel's dialectic because of the view of "nature as an alienated idea." We have already spoken about this.

Of particular importance for the methodology of the social sciences is Hegel's view that it is possible to form a completed system of social development whose crown is the state-which is mind and reason itself. This view is important because of the methodological question: what is the basis for forming the criterion by which it can be reliably determined that development is complete, and what is truly the highest level of social development.

From the exposition so far, it can be seen that the most important categories of his dialectic are: a) contradiction - external and internal); b) development; c) action; d) idea; e) absolute spirit; f) absolute idea; g) change; h) overcoming; i) transition from one to another, as well as the categories contained in the triads.

6.2. Concrete Materialist Dialectics

We approach the consideration of the concrete dialectical theoretical-methodological school from the standpoint of its contribution to the development of scientific research and the methods of that research. In doing so, we are setting aside the ideological undertones that numerous critics of this method attribute to it.

The creators of this method are primarily Marx, Engels, and Lenin, but others have also contributed to its development, primarily I. Kuvačić and especially B. Šešić, whose contribution is reflected in its supplementation with the rules of true (dialectical) thinking and the conceptualization of dialectical models.

An essential characteristic of this school is that it is, contrary to Hegel's idealistic school, materialistic, i.e., that at the basis of the world and human society lies matter (in its most diverse forms), and that the world and human society are specific forms of matter.

Human society is understood as self-generating, historical, created by practical human activity, specifically the conscious and creative activity of individuals, human groups, and communities, etc. It is developmental and contradictory. Also, the people who constitute human society are simultaneously natural (subject to the action of natural laws) and social (subject to the action of social laws-which are otherwise a social product). Every person, every individual, is a totality in themselves, unrepeatable, but also a part of other collective totalities.

According to the understanding of K. Marx, production and productive forces should be understood as the essential, fundamental regularity of the existence and development of society, which is an expression of the special characteristics of humans in the form of the capacity for creativity, labor, and thought. The productive forces and the initial conditions of existence and development are what man finds upon his birth. But the concept of "productive forces" is significantly more complex than is stated in polemics. It encompasses all components of the natural and social environment, from natural resources, through the means of production, to social relations and culture. Man uses the given determinants of the productive forces for his action, and through his action, he changes the productive forces and the properties of society. In this way, changes, development, and human and social history take place. Ultimately, man himself is the initial and an active productive force that creates all the elements and parts of more complex and developed productive forces-except for natural conditions and resources.

The materialist, concrete dialectical school, accepting the standpoint of the existence and action of social laws in a very complex and structural whole, emphasizes three essential social laws:

(1) "The productive forces and the relations of production, i.e., the content and form of every social community, must come into contradiction, which sooner or later leads to a change first of all in the basic, and then in the other factors of society." The content of this law directs us to the view that the "productive forces and relations of production" and the "social community"-which is also the essential basic unit of research-are a permanently important subject of research for the social sciences.

(2) "Every qualitatively new productive force leads to some new form of the division of labor," which indicates to us that the division of labor is a permanent feature of human society, and that labor and the division of labor are a permanent subject of research for the social sciences.

(3) "The history of all hitherto existing society is the history of class struggles." This law, although it suggests the composition of society and the relations between social groups as a permanent subject of research, exhibits two shortcomings. First, the statement is not in the form of a law. Second, formulated in this way, it neglects this theoretical-methodological school's own standpoint on pre-class (and post-class) society.

By analyzing the basic postulates and laws of society, we arrive at the following essential premises for understanding and researching society: (1) at the basis of the existence and total development of the world and society are: matter, nature, and practical human activity-which also implies mental activities; (2) All things in the world are mutually conditioned and connected in the following forms: a) content-materially; b) spatio-temporally; c) causally-genetically; d) functionally; and e) developmentally. The aforementioned connections do not have to manifest directly or simultaneously because they are "internally connected in the final instance"; (3) All things, phenomena, and processes are dialectically complex unities of various, opposing, and contradictory factors-which are themselves dialectically complex; (4) The content of every identity is also diversity and change (this is the existence of the same thing alongside its changes); (5) Everything has its causes and consequences; (6) Human society is self-generating; (7) Everything is changeable and developmental.

Development, as an essential feature of the human and the social, must not be understood as unidirectional and linear, but as a complex characteristic composed of: a) inception-origin; b) ascent-growth in a qualitative and quantitative sense; c) culmination-as the highest degree of achievement; d) stagnation-as a certain period of duration at the achieved level; e) decline; f) cessation-disappearance-transition into something else; g) every new thing begins in the past or the present.

These are the starting points that are implied in all scientific research carried out using this theoretical-methodological school. Its parts are also the dialectical principles, the basic rules of research, and the attitude towards the methods of research and interpretation.

Among the rules of research, we primarily classify the following positions: a) research must completely master the subject of research; b) theories must always relate to certain types of facts of social reality (past, present, future); c) facts are established and interpreted from a theoretical standpoint; d) when the discovery of new facts or new properties of facts leads to a contradiction in the theory, the theory must be changed, which implies that the theory is based on facts and is verified by them (this is the view that social practice is itself a way of knowing, a subject, and a verifier of knowledge); e) scientific-dialectical thinking moves from direct observation and moves towards abstract thought; f) in science, an integral treatment is necessary, which acknowledges the facts that the basis of human thought is practical human activity, and that it is the ultimate criterion of objective truth.

By analyzing the presented postulates, we see that it is necessary to base research on theoretical knowledge as a guide, but that we must systematically verify it with empirical research.

In scientific research, according to the requirements of this school, one should be guided by the following principles:

(1) of the dialectical identity of relations, by the principle of dialectical analysis which understands all subjects as dialectically complex;

(2) of the unity and struggle of the diverse, the opposite, and the contradictory, of form and content, of the general, the particular, and the individual;

(3) of movement, change, and development;

(4) of the transition from one to another (the transition from quality to quantity and vice versa, as well as the transition from one quality to another);

(5) the principle of further and deeper knowledge which moves from appearance towards essence; from coexistence to cause, and from one type of connection to other types of connections (and relations).

The presented principles are based on the standpoint that the laws of thought have their own autonomy, but that "in the final instance" they derive from the laws of social and natural reality.

The attitude of this school towards the questions of method and their use is very specific. Within it, first, some general scientific methods were created, some basic ones were affirmed, and a positive attitude towards some methods of data collection was demonstrated.

As a starting point, we will take Marx's standpoint that it is necessary to distinguish the methods of research from the methods of interpretation because they do not have to be the same in research practice. Although this standpoint can be understood in several ways, it should not be understood as allowing interpretation outside of a specific theoretical-methodological concept and the provisions of the applied research methods and their relationship.

Marx called his method analytical more often than dialectical. And indeed, at its core are the analysis of reality and conceptual analysis. His analysis of the commodity as a social reality and a general complex concept in fact constituted the analytical-hypothetical general scientific method.

This method satisfies all the essential requirements of the modern understanding of the analytical method, which can be briefly defined as follows: (1) recognition of the given (which is why the concepts of "choice" and "problem" are very important in the initial phase); (2) emphasis on "observational" facts as essential and primary, as well as their connections and relations; (3) the necessity of defining the "field of research"; (4) acceptance of the possibility that the method can be corrected, if necessary.

He operates with the concept of "empirical analysis," and says of his method: "My dialectical method is, in its foundations, not only different from the Hegelian, but is its direct opposite. To Hegel, the life process of the human brain, i.e., the process of thinking, which, under the name of 'the Idea,' he even transforms into an independent subject, is the demiurgos of the real world, and the real world is only the external, phenomenal form of 'the Idea.' With me, on the contrary, the ideal is nothing else than the material world reflected by the human mind, and translated into forms of thought."

This school also has a positive attitude towards the "proto-method"-the method of trial and error. With their essential views on the possibility of knowing society and on the foundation of their own "analytical," "dialectical," "empirical analytical" method, the creators also implicitly affirmed the general scientific hypothetico-deductive method. They also, through their research practice, contributed to the development of the general scientific statistical method. By using statistical and other data extensively, they, like E. Durkheim later, promoted secondary analysis.

Of the basic methods, with their view on contemplation and their work on the study of the commodity, but also with other works, they especially affirmed and developed abstraction.

Regarding the attitude towards data collection methods, until recently there were misconceptions that this school, like Kant's positivism, does not accept the experiment. Indeed, the standpoint of the founders of this school is that a human totality is not repeatable, and thus an experiment like those in the natural sciences is impossible in the social sciences-especially in the research of macro-phenomena and past phenomena. However, in their works, they refer to the experiment in English society, that is, to the natural experiment.

Surveying had a recognized status, especially surveying with open-ended responses, which Marx himself applied with the explanation that those who are in a certain position know best about their position. And direct insight, i.e., observation, also had an incontestable status.

Content analysis of documents, the case study, the biographical method, the modeling method, etc., were not constituted as separate methods at that time, although they were used intuitively in some way. The analysis of texts was unavoidable, and the text on the Paris Commune is an evident example of the case study method in its infancy. It would be unjustified not to point out that the same or similar hints appear in the research of other schools of that time.

Leszek Nowak, Lefebvre, Althusser, and Bogdan Šešić are the true successors of creation in the field of the dialectical method. Thus, Leszek Nowak proves that Marx used the general scientific method of modeling, and that he himself created models. Comparing the ideal type and "Marx's structural-functional model," he concludes that Marx's model is naturalistic.

Althusser affirmed the thesis of Marx's structuralism, and Lefebvre systematized the basic research starting points of the dialectical method that have the significance of principles. However, the most prolific was Bogdan Šešić who, through the works: "Fundamentals of Logic," "Logic," "General Methodology," and "Fundamentals of the Methodology of the Social Sciences," built a codified methodological opus of the concrete dialectical method. What's more, in addition to the rules of true thinking, he built the concept of structural-functional models.

Šešić distinguishes between theoretical and research dialectical models. Within the theoretical models, he lists:

a) *Specified theoretical models*. These models express the essential propositions of the basic theory, but can also be directed at only one specific goal and subject of research;

b) *Extensional or extension models*, which are more complex than the basic theory-they extend it to some extent;

c) *Generalized models*, which lead to the generalization of the basic theory.

Besides the mentioned, B. Šešić tries to develop fundamental models that deal with the essential propositions of dialectics. These are the models of:

1) dialectical unity, 2) dialectical identity, 3) dialectical contradiction, and 4) dialectical change and development. These models are given in the

form of formulas, in an artificial language. They have not been affirmed in methodological and research practice, and they are also quite complicated to apply.

The situation is significantly different with the research structural-functional models that B. Šešić derived from research practice. He lists two basic types of all models: a) the general and b) the special structural-functional dialectical model. Both are (the special one somewhat more so) in fact a concise, modally expressed, guide for conceiving and realizing research, both theoretical and empirical.

B. Šešić foresees-and standardizes-the conditions necessary for the creation of structural-functional models. These are:

- the existence of primitive, theoretically unformulated, abstract propositions;
- the existence of special models that can be dialectically interpreted;
- the existence of developed, strictly formalized languages and the possibility of using adequate symbolic languages.

Due to their characteristics, research models are quite widely used intuitively. However, they have not been the subject of methodological research, although they were created about 50 years ago.

Many criticisms and objections from various sources and from various standpoints have been directed at the concrete dialectical method. We will mention only some of the most important ones.

The first and most common critical remark directed at the concrete dialectical method is that it is more of an ideology than a scientific method. The main arguments in these critiques are: a) that this method declares itself as revolutionary, class-based, and aimed at the liberation of the working class; b) that it is a conflict-oriented school of thought.

Second, it is attributed with being based exclusively on contradiction, which excludes solidarity, without which the survival of human society is impossible. There is no doubt that contradiction is an essential category of dialectics-but related to it is the unity of contradictions, opposites, and differences. The consideration of totality is also related to this.

The third objection relates precisely to the concept and understanding of totality and the relations of totalities. Indeed, this category is very complex, and various interpretations are possible. The natural and social components of man; the individual, group, and collective components of man and society truly require the formation of concepts and terms for individual, particular, and general wholes. Whether this is indeed the best-formulated and adequately interpreted concept is a question that can be debated, just like any other term and concept.

The concrete dialectical school is criticized for being a deterministic school, which excludes man. There is no doubt that elements of determinism can be found in the views on productive forces and relations of production. But, in connection with this view, one must also keep in mind the views on history and human activity.

Over the past twenty years, along with criticisms of an excessive deterministic orientation, the concrete dialectical school has also been criticized for its poor prognostic ability. The basis for this are the events that took place in the period from 1985 to the present. We, from the standpoint of our subject of research, must point out the need to distinguish between criticisms directed at the theory and criticisms of the method, as well as of the application of the method and the interpretation of theoretical propositions.

The materialist orientation is also a subject of criticism. If matter in any form is the basis of everything, the spiritual cannot be properly explained. Undoubtedly, the materialist postulate can be criticized from various standpoints, but matter cannot be neglected in scientific research either!

We will mention just one more objection of a general scope. This is the criticism of this school's attempt to build a single comprehensive social theory, and that it failed in doing so. Even if this is true, it is not the only case among the theoretical-methodological schools.

It is understandable that careful analysts will find many other provisions of this and other schools that can be subjected to criticism and that should be re-examined. But our essential, fundamental, and sharpest objection to this and other methodological and, especially, theoretical schools is the overemphasized one-sidedness and intolerance towards other schools and variants of schools. In this sense, we truly consider Merton's standpoint to be instructive when approaching scientific criticism.

6.3. Further Development of the Dialectical School

The end of the twentieth and the beginning of the twenty-first century did not bring further development and ascent for this school. The Frankfurt critical dialectical school, Adorno's negative dialectics, and Habermas's critique of Marx are creations of an earlier period that ends around 1975 with the work of Bogdan Šešić. For that period of the dialectical method, it can be said that it did not make any significant concrete methodological contributions. The aforementioned creators (Horkheimer, Mannheim, Marcuse, Adorno, Habermas) were primarily concerned with theoretical propositions of some methodological significance. Practically, at this moment, the dialectical theoretical-methodological school is stagnating, but this is also the case with other theoretical-methodological schools. Generally speaking, the end of the twentieth and the beginning of the twenty-first century were marked by a standstill and stagnation of interest and creation in the field of methodology.

7. The Phenomenological Theoretical-Methodological School

The phenomenological school is primarily a philosophical and theoretical school whose most influential proponents are Husserl and Heidegger. His creative work has conceptual significance, and its most important propositions are: "to the things themselves" and "unmediated communication." So far, this has not had a significant influence in the sphere of methodology and research methods, except on approaches to research and the interpretation of results, but more in principle-as a philosophical-theoretical discussion rather than as an application in research.

* * * * *

Believing that we have presented the basic propositions and contributions, the methodological contributions of the most important theoretical-methodological schools, we conclude the section on theoretical-methodological schools. So that we are not criticized for not having separately covered the holistic and individualistic concepts (which were discussed in connection with the schools under consideration) and the quantitative and qualitative approaches, we only mention them here because it is necessary to speak about them during the consideration of the problems of designing and implementing research.

1. (1) Pejčić, Miroslav: *Methodology of Social Sciences*, Savremena administracija, Belgrade, 1989, pp. 77-114.

(2) Milosavljević, Slavomir - Radosavljević, Ivan: *Fundamentals of the Methodology of Political Sciences*, Belgrade, 2000, pp. 13-19.

2. (1) Milić, Vojin: *Sociological Method*, Nolit, Belgrade, 1978, p. 77.
(2) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, DAX - trade, 1999, pp. 278-288.

3. Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, Naučna knjiga, Belgrade, 1978, p. 137.

4. (1) Comte, Auguste: *Course of Positive Philosophy*, Kultura, Belgrade, 1962.
(2) Saint-Simon - A. Comte: *Sociological Chrestomathy*, Matica hrvatska, Zagreb, 1966.
(3) Pešić, Mihailo: *Sociological Theories*, Institute for Political Studies, Belgrade, 1994, pp. 20-30.

5. (1) Mill, J.S.: *Auguste Comte et la positivisme* [Auguste Comte and Positivism], F. Alcom, Paris, 1903.
(2) Mill, J.S.: *System of logic*, the edition, Longmans, Green and Co. London, 1965.

6. (1) Durkheim, Émile: *The Rules of Sociological Method*, Savremena škola, Belgrade, 1963.
(2) Durkheim, Émile: *On the Division of Social Labour*, Prosveta, Belgrade, 1972.
(3) Durkheim, Émile: *The Elementary Forms of Religious Life*, Prosveta, Belgrade, 1982.

7. Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, pp. 252-254.

8. Ibid. p. 155: "Structure is a complete system of relations of elements of any complex object, phenomenon, or process..."

9. Supek, Rudi: *The Sociologist's Craft*, Školska knjiga, Zagreb, 1983, p. 69.

10. Lévi-Strauss, C.: The Culinary Triangle, journal "Kritika", 1970, no. 4, pp. 167-177.

11. On the types of structuralism, see the journal "Delo", Nolit, Belgrade, 1974, and the Collection "Structuralism", Zagreb, 1970.

12. Matić, Milan: *Myth and Politics*, Rad, Belgrade, 1974, p. 389.

13. Ilić, Vladimir: *Functionalism in Sociology*, Institute for Sociological Research of the Faculty of Philosophy in Belgrade, 1995. This is an exhaustive study and refers to all parts of the work on functionalism, so we will not cite it every time.

14. The most important works of Talcott Parsons are: *The Structure of Social Action*, New York, 1949; *Essays in Sociological Theory*, Glencoe, Illinois, 1954; *The Social System*, Glencoe, Illinois, 1951.

15. Kuvačić, Ivan: Parsons's Theory of Social Equilibrium, in the book: *Marxism and Functionalism*, Komunist, Belgrade, 1970, pp. 41-66.

16. Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, p. 159.

17. Ibid.

18. Pečujlić, Miroslav: *Methodology of Social Sciences*, pp. 31-62.

19. Gouldner, A.W.: *For Sociology*, Globus, Zagreb, 1980.

20. Merton, Robert K.: *On Theoretical Sociology*, Center for Social Activities, SSO of Croatia, Zagreb, 1979, pp. 16-148.
21. Pečujlić, Miroslav: *Methodology of Social Sciences*, pp. 43-62.
22. Luhmann, Niklas: *Systems Theory*, Globus, Zagreb, 1981.
23. Cohen and Nagel: *An Introduction to Logic and Scientific Method*, Institute for the Publication of Textbooks and Teaching Aids of SRS, Belgrade, 1979.
24. The behaviorist methodological school is only exceptionally covered in our methodological literature.
25. Pešić, Mihailo: *Sociological Theories*, p. 15.
26. Radonjić, Slavoljub: *Introduction to Psychology*, Institute for Textbooks and Teaching Aids, Belgrade, 1967. He covered various aspects of behaviorism exhaustively throughout almost the entire book.
27. This part of behaviorism, from the standpoint of the methodology of social sciences, was covered by:
(1) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, pp. 309-316.
(2) Milosavljević, Slavomir - Radosavljević, Ivan: *Fundamentals of the Methodology of Political Sciences*, pp. 340-349.
(3) Bogdanović, Marija: *Methodological Studies*, Institute for Political Studies, Belgrade, 1993, pp. 121-123.
28. Dilthey, Wilhelm: *The Construction of the Historical World in the Human Sciences*, Bigz, Belgrade, 1980.
29. Hans-Georg Gadamer: *Truth and Method*, "Veselin Masleša", Sarajevo, 1978.
30. Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, p. 133.
31. Weber, Max: *Economy and Society*, Prosveta, Belgrade, 1976.
32. Weber's basic propositions are understood in a similar way by:
(1) Pešić, Mihailo: *Sociological Theories*, pp. 74-79.
(2) Pečujlić, Miroslav: *Methodology of Social Sciences*, pp. 63-66.
33. Pečujlić, M. attaches great importance to understanding. He considers it a principle of the contemporary community.
34. Weber, Max: *Economy and Society*, pp. 5, 9, 15, 16, 17, 20, 28.
35. The method of ideal types was discussed by:
(1) Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*,
(2) Pečujlić, Miroslav: *Methodology of Social Sciences*,
(3) Đurić, Mihailo: *Problems of the Sociological Method*,
(4) Radosavljević, Ivan: *The Hypothetico-Deductive Method in the Research of Politics*, and others, including Termiz, Dževad, and Milosavljević, Slavomir in the mentioned works. The views on the method of ideal types are based on the listed literature, including the works of M. Weber.
36. The dialectical method was dealt with by all significant methodologists in the former SFRY, starting from V. Milić, M. Pečujlić, M. Đurić, B. Šešić, etc. However, the most systematic methodological treatment of this school was given by B. Šešić and M. Pečujlić, so our exposition relies primarily on them and on the original literature. At the same time, one should keep in mind the

contemporary treatment of this school in the works of Milosavljević, Radosavljević, and Termiz.

37. On the phenomenological school, see: *Marxism and Phenomenology*, and Halmi, Aleksandar: *Methodology of Research in Social Work*, p. 75; Pešić, Mihailo: *Sociological Theories*, p. 96.

PART TWO:
THE PROCESS OF SCIENTIFIC RESEARCH

VI - THEORETICAL AND EMPIRICAL SCIENTIFIC RESEARCH

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In all parts of the preceding exposition, scientific research has been the center of attention. It has been consistently understood and designated as a very complex, organized, systematic process, defined by its subject and objective, for acquiring true knowledge about nature and society by applying cognitively penetrating, reliable, and valid, scientifically developed and verified procedures, methods, and techniques, and coherent, consistent approaches and conceptions. Research has been assigned the role of the only truly scientific way of acquiring true knowledge of the past, present, and future, with the clear task of discovering, describing, classifying, and typologizing them, explaining them, and, based on scientific laws and explanations, predicting them and enabling them to be guided.

The objection that the past cannot be guided by any research is indeed justified if two essential points are overlooked. First, the fact that everything current had its origin in the tendencies, possibilities, and knowledge of the past-that it is the realization of some tendencies and possibilities of the past, and that the present is only a stage in the movement from the past towards the future. This standpoint is particularly valid for human society, its movement, and its development due to its essential properties and the role of reason, consciousness, knowledge, and the will of people, their groups, communities, organizations, and institutions; their actions, relationships, roles, and functions. Second, the properties of man's natural and social being maintain the activity of the past through at least three channels of influence: genetic heritage, tradition with cultural heritage, and scientific and professional knowledge as a specific form of human culture. Scientific knowledge about the past will not change the past itself, and in that sense, it cannot guide it, but it will guide the effects of the past through true knowledge, by classifying and evaluating the past and its influence. The significance of this knowledge and the guiding of the past's influence is strongly argued by facts about the existence and influence of the natural (ecological) environment, technology, nations, confessions, states, orienting value systems, the locations of wealth and poverty, the historical memory of a people, etc. The statement about guiding the past through the interpretation of research results should be understood in this sense.

The most important, initial criterion for differentiating research is very complex because it is a specific whole created by the interweaving of the SUBJECT and METHOD of research. By applying this criterion, we have arrived at the division into theoretical and empirical research.

1. Basic Characteristics of Theoretical Research

Let us first try to find a valid, functional answer to the question: what is scientific theoretical research?

By definition, a theory in general is any meaningful result of subject-focused and systematic logical thinking that exceeds the scope of a proposition, judgment, or conclusion, that is, which constitutes a certain general intellectual whole. Therefore, the subject does not have to be scientifically defined, nor does a scientific procedure have to be applied in the thinking.[1)] The procedure by which the result-the theory-was reached is not scientific, and thus that theory cannot be considered scientific, although it may contain completely true and valid knowledge.

A scientific theory, also by definition, is a complex result of thinking about a scientifically defined subject, which was reached through systematic, logical, meaningful deliberation by applying a scientific procedure.

What we must state is that even that non-scientific, spontaneous theory could not avoid those essential regularities characteristic of a theory. It, too, is subject-focused-it concerns some subject of deliberation. The subject is complex and has properties of the particular and the general. It is also complex itself because it necessarily consists of premises, propositions, judgments, and conclusions, and assumptions (hypotheses), and it is arrived at through proof and refutation. And what essentially distinguishes it from a scientific theory is its subjectivity and the manner in which it is created.

From the preceding expositions, it is clear that the distinction between scientific and other theories is established based on the way in which the theory was arrived at through thought. A scientific theory is, therefore, a theory that has been reached through scientific theoretical research. But what is theoretical research?

In principle, theoretical scientific research [2)] should be understood as:

(1) *The subject of the research is defined by a scientific procedure*, which means: A) a scientifically known problem served as the basis for deriving the subject of research; B) there existed, within a theory, a formulated hypothesis that was used to derive the subject; C) a gap in a scientific theory was discovered; D) a certain axiom, postulate, or similar implies the possibility of formulating the subject, etc. Therefore, the choice of the subject of theoretical consideration cannot be arbitrary but must have a foothold in science, or at least the non-scientific evidence of a problem must indicate the probability of its scientific significance.

The subject of theoretical scientific research can also be implied by the results of scientific research into the subject of a particular science and, also, by methodological research.

All subjects of scientific theoretical research must be (should be) of a general character and of significance for science.

(2) The manner of inquiry in scientific theoretical research can be defined as the method of proof and refutation. However, this is an essential characteristic of all research, so closer definitions must be added to this.

Unlike empirical research, which does not have to make its starting points explicit in all cases, scientific theoretical research must state and explain the questions it poses, the reasons that lead to them, and the standpoints and premises from which it starts.

Scientific-theoretical research must clearly state the thesis (theses) it advocates and the counter-theses that are the subject of criticism and/or rejection.

In proving-or refuting-theses, the explanations must be, however complex, completely specific and must contain theoretical or empirical arguments according to a hierarchy of significance, the directness of the connection with the thesis-antithesis, and the origin of the argument.

Theoretical research is necessarily analytical-synthetic, abstract, classificatory-typological, deductive, and inductive, and can be, and often is, generalizing. Hence the requirement that basic scientific methods be applied very correctly in the research.

In theoretical scientific research, all general scientific methods are also wholeheartedly and explicitly used. Primarily, the axiomatic and analytical-deductive methods are applied directly, followed by the hypothetico-deductive and statistical methods. Therefore, the requirement that these methods be applied very strictly and consistently is essential.

Data is also collected in theoretical research; these are the propositions of theories and the results of research using the operational method of content analysis of documents, where the variant of qualitative analysis has precedence, but this does not exclude the variant of quantitative content analysis of documents, as well as the survey method-the research technique of the interview, i.e., its specific form of the non-directed interview. If we keep the aforementioned in mind, then the results of previous research reached by all or any of the data collection methods are included, and it can be considered that theoretical research indirectly uses all methods of data collection.

Every theoretical research has at its core one basic idea or a consistent system of ideas. It cannot be expressed without concepts, propositions, judgments, and reasoning. Therefore, conceptual and "ideographic analysis," the analysis of propositions, judgments, and conclusions, is necessary. Here we will address just one more essential question: must-or should-theoretical research be conducted according to the same procedure as empirical research? A principled answer can be given to this question, but specific answers must also be given to the same question for various types of theoretical research, as well as concrete answers for each individual research project.

The principled answer is: a conceptualization and the creation of a research project are necessary, in which the basic idea (system of ideas) that is at the core of the research subject will be clarified, hypothetical propositions will be formulated, and the methods by which the research will be realized will be stated.

However, the conceptualization and design of the research can differ significantly in scope and content depending on whether and by which methods data will be collected. Most theoretical scientific research is based on available texts that contain certain propositions, judgments, and conclusions. Such research necessarily uses the data collection method called "analysis of (the content of) documents."

Conceptualization and design are even more important if the research is carried out through oral exchanges of messages and information, which is a form of surveying or scientific discussion.

Conceptualization and design are most necessary for generalizing research that starts from the results of empirical research, and in which the method of secondary analysis is necessarily applied.

Perhaps only in research that takes place by contemplating a certain idea without relying on already existing statements is detailed design not essential-if such scientific research is even possible.

On this occasion, we cannot venture into a classification of theoretical scientific research because we do not have enough insight into the research on this topic. However, it is evident that based on the methods of theoretical scientific research, we can distinguish between: (1) research that uses empirical arguments and some methods of empirical research; and (2) research that relies on exclusively theoretical arguments and only basic methods.

The criterion we used in constituting the presented dichotomy can serve to develop a more complete classification, but also as a basis for raising the question of whether purely theoretical research is possible at all through contemplation alone, due to the difficulties of its foundation, argumentation, and intersubjective checking and verification.

The type of subject that the theory examines can also serve as a criterion for classification. According to this criterion, the difference between theories becomes apparent: (a) those that examine another or other theories; (b) those that examine various variants or only one of the variants of a certain theory or one of its constitutive parts; (c) a certain philosophical proposition or conception; or (d) a certain problem, part, or aspect of social reality. These examinations can be oriented either towards the subject matter of the science or towards its method.

The scientific-cognitive or scientific-research role of theoretical scientific research is irreplaceable, and it manifests primarily as:

(1) the generalization of the results of empirical research;

(2) the unification of smaller-scope ("middle-range") theories[3)] and the generalization of their findings;

(3) a guide for both theoretical and empirical research, in relation to both the subject and the method;[4)]

(4) a critic and a basis for the interpretation and verification of related theories of the same, higher, or lower scope through the determination of consistency, argumentation, etc.;

(5) a critique and a basis for interpreting the results of empirical research;

(6) an inspiration for new research, and

(7) theory is an essential part of every science.

Theoretical research in the social sciences encounters many obstacles. The first type of obstacle in arriving at truth is the diversity of social situations and characteristics, which have various causes. From this, theories whose subject is society can rarely achieve a scope and degree of truth that will exclude exceptions. The second problem arises from the theory itself, more precisely from its composition. Its composition includes axioms and verified scientific knowledge, as well as theorems and hypothetical propositions, arguments, etc., but with different participation in each type of theory (as a subject of research). As human society is developmental, so are axioms, paradigms, and theories themselves, and theories also guide theoretical research. And the third problem is verifying the validity of a theory in different times and in different places by any kind of scientific research.

2. Basic Characteristics of Empirical Research

As in the previous chapter, let us first try to answer the question: what are empirical research studies? [6)] The answer is that they are scientific research whose subject is social and natural reality, and which build their scientific knowledge through the complex process of collecting and processing empirical data with adequate methods and drawing conclusions based on them. Although acceptable, this definition is not sufficient. Namely, reality can also be the subject of theoretical research, and theoretical research can also rely on empirical data. Some of them may even collect empirical data themselves.

Namely, if reality is also understood to include spiritual creations, statements, judgments, and conclusions, then it can be considered that all theoretical research that deals with the analysis of statements given in written form or some other form that can be recorded by the senses is, in fact, collecting empirical data. Therefore, the concept of "empirical data" needs to be specified further. [7)]

Besides having reality as their subject, collecting empirical data, and basing their knowledge on it, empirical research must satisfy some other requirements to be specified. The first such requirement could be the specificity of the data collected through such research.[8)] That specificity of data could lie in their factual determination and in their character as true data about the facts of reality. It is clear that the problem of "factual data," "factual propositions," etc., remains a problem in definition and evaluation, just as the question of the truthfulness of data remains open. The second specificity of empirical research is that it tends to be conducted according to the strict logic of experimental research, which is achieved through strictly controlled research in the social sciences.

Therefore, scientific empirical research of society is more strictly organized, with more specific procedures, with more specific methodological norms (not just logical ones), and with a pronounced orientation towards factual data and its processing.

Empirical research is fundamentally inductive, or at least induction and generalization play an essential role in it. It is undoubtedly obligated to use the general scientific statistical method, and therefore must also respect the procedures of quantification. This is not an obligation for theoretical research, except in strictly defined cases.

"Field work" is essential for empirical research-direct contact with certain manifestations of the phenomenon being researched. Furthermore, empirical research, as a rule, has a narrower scope of coverage than theoretical research, [9)] and is thus more partial, and its results have a lower degree of generality.

It is more diverse than theoretical scientific research, both in terms of subject (it can also cover individual subjects or small groups and communities) and in terms of methods and techniques for data collection and processing[10)].

However, the value of its results remains contentious. The view that inductive reasoning can only lead to probable knowledge because that knowledge is not analytical is the basis of the question about the value of the results of empirical research. In fact, a question formulated this way is incorrect because it starts from incorrect premises: (a) that scientific and purely empirical research exists; (b) that empirical research is only inductive; (c) it overlooks the "experimental character" of strictly controlled research; (d) it overlooks the possibility of "complete induction," as well as "representative samples"; (e) the necessity of empirical research, without which the concrete, and often the particular, cannot be known; (f) it does not sufficiently appreciate the development and penetrative power of the methods of empirical research; (g) it overlooks the possibility of a very high degree of probability, which is an essential characteristic of the most diverse fields of scientific knowledge.

Empirical research and its results are based on the concept of the law of large numbers (mass research), the relative uniformity and relative unification of phenomena, and the relative regularity and lawfulness of the occurrence of social phenomena. The possibilities of locating a specific research subject in time and space and limiting the duration of the research, and the possibilities of interpersonal and multi-method control of the course of empirical research, are advantages, but also problems of empirical research.

Conceptualization and the creation of a research project are essential requirements of empirical research. This requirement, if properly fulfilled, leads to greater reliability of the research results and to deductive-inductive reasoning. Namely, the procedures of conceptualization and design ensure the connection of theoretical and empirical provisions into a single whole.

The essential scientific-cognitive possibilities of empirical research are manifested through the following of their roles:

(1) a basis and impetus for the emergence of new theories;

(2) a mechanism and method for verifying the validity of a certain theory and its modification, confirmation, or change;

(3) a basis and mechanism for forming scientific laws and discovering regularities of deviation;

(4) a basis for scientific explanation;

(5) a mechanism for knowing the concrete and the particular, similarities and differences.

The social sciences, because of their developmental nature and the developmental and variable nature of social phenomena, their different temporalities and unequal locations, as well as their diversity, cannot be truly scientifically known without empirical research. We can freely assert that at the foundation of the secular sciences lies scientific empirical research.

3. The Interdependence of Theoretical and Empirical Research

We have covered the largest part of the problem of the relationship between theoretical and empirical research through the presentation of the cognitive roles of these two types of research. Their mutual dependence makes it impossible to accept certain outdated approaches that glorify or belittle one or the other type of research.

First, both types of research have the same basic subject of research-social reality-but in different ways and at different levels of generality.

Second, both types stimulate each other.

Third, both types serve as a basis of research for each other.

Fourth, both types, in different ways, guide each other.

Fifth, both types control each other, and

Sixth, they verify each other.

Keeping these points in mind, we can consider that they mutually interpenetrate and serve as argumentation for each other. Interconnected, they form the whole of the process from the scientific knowledge of the individual and the particular to the scientific knowledge of the general and the universal. At the same time, they use various methods of scientific knowledge and practically connect them into a methodical-methodological system.

Even with regard to the application of the results and methods of research, their interdependence establishes an instructive methodological-methodical and didactic whole.

The history of the origin of science, as well as the origin of the conscious subject and society in the contemporary world, can be and is observed from a secular and a religious standpoint.

According to the standpoints of the secular understanding of the world, there is no place for dogmas in science; rather, proof or confirmation in practice is required for all scientific knowledge. This standpoint gives priority to experiential knowledge as the starting point (the method of trial and error), which, through verification, is constituted into a regularity to, in the end, become an explanation and a scientific law, and thus a postulate-a premise in deductive analytical reasoning. In this sense, selective, deliberated knowledge through induction-both as raw, simple experiential knowledge and as knowledge from empirical scientific research-precedes scientific theory, or the theory of sciences. Because the theory from which empirical research begins and which it uses as an orientation is, as a rule, not just any theory, but one that has been confirmed by the arguments of practice.

However, one open question remains: can the future be empirically researched? Or is prognostic research exclusively or predominantly theoretical? The basis of this question lies in the fact that the future, especially one that is temporally distant, does not yet exist in practice. So, can we empirically research the future, can empirical research be prognostic and not just diagnostic?

The very course and procedure by which prognostic scientific knowledge is created confirm for us that empirical research is necessarily at the foundation of building a scientific prognosis. And the course of prognostic research basically proceeds as follows:

1. In science and practice, understood in a secular way, the generally accepted standpoint is that phenomena arise under certain conditions under the influence (action) of certain causes. They do not arise all at once, but the process of their emergence is always determined in time and space. Some of the phenomena develop, but not all newly emerged social phenomena go through all the phases of social development. The emergence can be empirically observed (noticed) through empirical manifestations.

2. Based on the axiom that every new thing begins in the past or the present, we scientifically research reality and ascertain some of its essential features and characteristics. That is, we discover the current situation in which the phenomena are found, their position, role, and phases of development. Some appear as causes, others as consequences; some are at the beginning of their development, some at their peak, and some are dying out, disappearing, transitioning into something else. Some are active, others neutral, and a third group is passive. Some are resistant to the influence of others, while some are prone to change under the influence of others.

3. We discover the active factors-the causes-and those that change under the influence of the former. Causes and effects as phenomena in a coupling can be considered tendencies. Both the cause and the effect and their coupling must manifest, which allows them to be recorded, and based

on their manifestation and recording, they can be known qualitatively and quantitatively, spatially and temporally.

4. Based on scientific insight and understanding, as well as the most accurate assessment and evaluation of the development of tendencies, a vision of the upcoming near and distant future is formed in various areas of the existence and development of society.

5. Given that not all tendencies have the same significance for the properties, social characteristics, and development of society, nor are they all simultaneously and equally expressed, a selection based on significance is necessary to derive a synthetic prognostic proposition-judgment-conclusion.

This simple schema proves that empirical research is not only possible as prognostic research but is necessarily foundational to it, and also that the general scientific methods are essential in this research: the hypothetico-deductive, statistical, and modeling methods.

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1. Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, pp. 195-203.
2. Mihailović, Dobrivoje: *Methodology of Scientific Research*, p. 70.
3. Merton, Robert K.: *On Theoretical Sociology*, especially consult pages: 1-50.
4. Goode and Hatt: *Methods of Social Research*, pp. 11-21.
5. Fitzgerald, Jack D. - Fox, Steven M.: *Research Methodology in the Criminal Justice Sciences*, p. 27.
6. Ristić, Živan: *On Research, Method, and Knowledge*, pp. 257-269, 260.
7. Milić, Vojin: *Sociological Method*, pp. 377-428.
8. Lukić, Radomir: in "Methodology of Social Sciences" by Miroslav Pečujlić, p. 344.
9. Pečujlić, Miroslav: *Methodology of Social Sciences*, p. 243.
10. Fitzgerald, Jack D. - Fox, Steven M.: *Research Methodology in the Criminal Justice Sciences*, p. 22.

VII - STAGES AND PHASES IN THE PROCESS OF DESIGNING SCIENTIFIC RESEARCH

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The basic elements of the structure of any scientific research of the same type are generally the same. This is natural because the activity of research and research as a process are complex, systematic, goal-oriented, purposeful, and deliberate wholes. The order in which individual elements appear is thereby determined, as are the stages and phases of the activity. Therefore, in order to be able to conduct research, it is intelligent and purposeful to first establish the existence of a problem that is significant enough and suitable enough to be solved through research. When this is established, it is logical to decide on a certain type of scientific research based on the essential characteristics of the problem. This is a prerequisite for starting the creation of a research project and its pre-testing. After testing the validity of the research project and its eventual refinement or revision, it is logical that field work for data collection follows, and then their organization, processing, and drawing conclusions based on them. The research, in principle, ends with the creation of a report and recommendations, and in an extended procedure, with the application of the acquired scientific knowledge in science and/or social practice. This is only a general schema of the process. It is realized through actions and concrete steps which we will present in the following text.

1. Conceptualization and Reconceptualization of Research

1.1. Conceptualization

There are several different and mutually inconsistent understandings of conceptualization.

In the methodology of science and in scientific-research practice, there are two basic understandings. According to one group of authors, conceptualization is only one side of a whole, whose other side is reconceptualization. The second group of authors considers conceptualization and reconceptualization to be a unified process, which has several phases, in which conceptualization is a necessary component, while reconceptualization is not a necessary component, but is conditional and done as needed.

Both of the above understandings have the same (common) essential characteristic which can be expressed through the following two definitions:

A) "Conceptualization is a well-founded, scientific-theoretical idea of the research of a specific problem and subject which can be any reality of social reality suitable for scientific research" (Termiz, 2016, p. 81).

B) "Reconceptualization is a constructive, scientific-theoretical and empirically founded critique of the conceptualization and the removal of its errors through appropriate interventions" (Termiz, 2016, p. 81).

It is evident that in the cited, but also in other cases, there is an agreement that this is an activity of creating-forming a conception of research in some way and to some extent.

Therefore, we can understand conceptualization as a very complex theoretical and methodological idea of a system of scientific research, and its components cannot be observed independently, at least in principle.

We understand conceptualization as a complex process of stages and phases with which the activity of research begins, and which ends with the presentation of the research conclusions and the scientific use of the research results.

Conceptualization contains two global stages:

(1) the stage of theoretically building a theoretical model of:

a) the problem, and

b) the subject of research, and

(2) the empirical or theoretical verification of the model with an appropriate type of scientific research. Accordingly, an integral part of this whole model (the theoretical model) is also the imagined model of the research process.

Through scientific analysis of the scientific research process, we come to the knowledge that the process of conceptualization includes the following key (essential) moments:

"(1) Ascertaining and identifying the research problem. This does not mean just any problem of social reality, but only one that can and should, according to valid criteria, be scientifically researched.

(2) Creating and adopting the scientific-research – "project" – task.

(3) Building and adopting the conceptual design as the basis for the "implementation," applied research project.

(4) Creating and verifying the scientific-research "applied," "executive," research project.

(5) Application (realization) of the research project by:

(a) collecting and

(b) processing data.

(6) Drawing conclusions based on the data collected and processed through the application of the research project.

(7) A report on the results and the process of the research conducted according to the research project (according to the requirements of the conceptualization).

(8) Suggestions, recommendations, and application of the research results" (Termiz, 2016, p. 82).

Conceptualization, in fact, permeates the entire course of the research.

Conceptualization begins with the recording of a problem. The perception of problems through sensory and non-sensory means and their recording is the first phase of the first stage of conceptualization.[1)] It is justified to observe conceptualization through the following stages: (1) The stage up to the beginning of the creation of the research project, which includes the phases: (a) observation - noticing and recording the problem; (b) identification and articulation of the problem; (c) formulation of the research task; (d) formulation of the conceptual design. This stage is in fact preparatory, and within it, open problems of naming, conceptual definitions, identification of factors and their relationships, checking and verification of starting positions and ideas, and misunderstandings among the subjects of the research are ascertained and clarified. (2) The second stage of conceptualization can be understood as the stage of concretization and operationalization of the basic idea and initial concept of the research, as well as the control and correction of its realization. It takes place through two basic phases: (a) the phase of creating the research project as a scientific and operational document, and (b) the phase of testing the research project and its correction. (3) The third stage takes place during the collection, organization, and processing of data through the harmonization of the requirements of the basic research idea and concept with the rules of control, organization, processing, and evaluation of data. (4) The fourth stage is very complex in its content, because within it, the checking, proving-refuting, that is, the confirmation or negation of hypotheses takes place. It, just like the previous one, takes place without special phases because its separation into phases would disrupt the unified process of deliberation, although more phases could be discovered based on formal features. (5) The fifth stage is the essential final phase of ascertaining and making sense of the research results, and constituting and presenting the scientific knowledge achieved through the research. As in the third and fourth, in the fifth stage, the role of conceptualization is guiding and controlling. It is, however, not realized directly, as an external entity, but through the research project and its realization.

Let us consider the first stage in detail because it is during this stage that the essential strategic concepts, ideas, and criteria of the research are formed.

We have already said that the first phase is the activity of observing, noticing, and recording a problem, in our case a social problem. We understand a social problem as a social situation that deviates from usual and known situations for which an appropriate solution needs to be found. A problem is always, internally, a relatively unknown or insufficiently known, difficult, dysfunctional, and disruptive situation that needs to be changed.

In order to be resolved-removed, the problem needs to be truly known, identified.[2)] The arisen problem can be a practical social problem of great, but also of no, scientific significance. It can also be of exclusively current and lasting scientific significance, but without current social importance and meaning. This is the reason why the problem is first designated-named-and then identified. The identification of the problem takes place by performing several mental and practical actions that occur almost simultaneously: a) the essential, recognizable manifestations of the problem and the consequences it causes are recorded; b) experts on the issue are consulted; c) an insight into the scientific fund is gained; d) information is collected from various sources about existing knowledge on the same or similar problems.[3)] The collected information is organized, classified, and evaluated. Based on all of this, a judgment is made about the properties of the problem and its social and scientific significance, that is, a judgment on whether it is a problem whose solution can be contributed to by scientific research. If, after responsible consideration, it is judged that it is purposeful to scientifically research the problem in question, one of two situations arises. The first, an interested party-a commissioner of the research-appears. The second, a scientist, a group of scientists, or an institution that proposes the problem for research appears.

The second phase is the procedure of problem identification. The basis for problem identification is mostly already prepared in the previous phase.[4)] In this one, it is concluded whether the problem is primarily (predominantly) scientific or social, to which scientific field and science it primarily belongs, and in which social sphere and scientific field its resolution will cause certain consequences, or whether the consequences of refraining from solving the problem with scientific research would be sufficiently tolerable. If it is assessed that the consequences for science and society would be predominantly negative or that there are sufficient conditions to solve the problem with scientific research, a preliminary definition of the research topic is approached. Given that the naming of the problem was already done in the previous phase, in this one, its renaming is actually carried out. However, the complexity of the problem and its properties may require that only a certain part, aspect, or property of the problem be subjected to scientific research, which is expressed in the preliminary title of the topic. For this reason, the title of the topic is also preliminary and flexible, and requires further concretization. The preliminary title of the topic in this phase is determined either by the commissioner of the research or the provider of the research. In fact, the preliminary title of the topic expresses the understanding of the essence and properties of the problem that should be researched, according to the assessment of the commissioner or the provider. In some cases, a joint initiative of the commissioner and the provider occurs, and, after an exchange of information and joint consideration, an initiative (working, authorized) group is formed or a person is appointed who will prepare the "project" or "research" task. In the case that the commissioner is the initiator, they prepare a proposal of the topic to be researched based on their own needs and possibilities, and in cases where it is an initiative of science (which is more frequent), the scientist-individual-group or institution prepares a preliminary offer for conducting the research. This preliminary offer can be in oral or written form, and when it comes to funded professional research institutions, it can also be a proposed research program. In all cases, it is necessary in the next phase to create a document called the "project" or "research" task.

The third phase of conceptualization is the creation of the "research" or "project" task. This is a document that expresses a higher degree of articulation of the problem, a certain degree of agreement on the thematic definition, the desired type of research, probably the most suitable methods, an estimate of the necessary funds, the justification for the research and the expectations from it, as well as the necessary time, space, and personnel. This is a document that offers only possible framework solutions and is more of a basis for considerations that should lead to the harmonization of views and the specification of expectations, requirements, and conditions, than a defined commitment. That is why a competent discussion must be held about it in order to remove possible, and in practice not infrequent, misunderstandings. In practice, a discrepancy between the requirements and expectations of the commissioner on the one hand, and the funds and time they are willing to provide for the scientific research on the other, is common. Also relatively common is an insufficient understanding of the real tasks and possibilities of certain types of scientific research, because many scientists and users of the results expect proposals for concrete decisions and measures for a solution in practice, instead of a knowledge base for social action. This is the reason that through the discussion of the project task, a decisively stated position is reached on the type of research; on the relationship between the research results and their application; on the relationship between the conditions and resources of the research on the one hand, and the research results on the other.

In practice, for various reasons, the written proposal, or the offer for research, is often omitted, and the consideration of the project task begins immediately.

The length of the text of the "research" - "project" task document, as a rule, does not exceed three typed pages.

The text of the project task and the discussion about it are the basis for the creation of the conceptual outline of the research project.

The content of the fourth phase consists of the creation of the conceptual outline of the research project and its consideration. The conceptual outline is the next degree of concretization of the basic research idea and the competent discussion about it. It contains the resultant of desires, needs, real conditions and possibilities, a strict evaluation of all previously presented views, their selection, interpenetration, and integration. It is the rationally understood agreement between the existing idea and the probable research practice.

The conceptual outline (of a project) of research is a very concise written document whose propositions are clearly and specifically presented on about five to seven pages. Its content consists of (according to the standpoint of S. Milosavljević and I. Radosavljević in the book "Fundamentals of the Methodology of Political Sciences", p. 414, Belgrade, 2000): "(1) a preliminary definition of the subject of research - the title of the topic with a brief description of its content; (2) the possible goals of the research; (3) the basic hypothetical proposition about the phenomenon, problem, subject of research; (4) the significance and justification of the research; (5) the basic methods and techniques of research; (6) the necessary time, personnel, and funds."

Accepting the basic provisions of this understanding, we must nevertheless point out some inaccuracies in the cited statement. Although the conceptual outline is only a written idea that is yet to be considered, it has the properties of a preliminary research design. Therefore, the following of our remarks should be considered:

A) In point one, before the preliminary definition of the subject, it is justified to state the knowledge about the problem from which the preliminary subject is derived. This would clarify the relationship between the problem and the preliminary subject;

B) In point two, instead of listing "possible" research goals, especially social ones, it is justified to list realistically desirable goals. These are already evaluated and suggested research goals;

C) In point three, it is desirable to list at least a few essential hypothetical propositions that elaborate on the basic-general proposition about the phenomenon, problem, or subject of research, in order to avoid excessive complexity of the statement. Or, if it seems inexpedient, it is necessary to give at least a brief explanation of the hypothetical proposition;

D) In point (5), the statement about the basic methods and techniques should be understood and expressed as a proposition about the essential methods and techniques that will be applied in this research. Otherwise, the statement can be given the wrong meaning based on the mention of basic methods as a member of the classification of methods.

The conceptual outline (of the project) of research, which is sometimes also called a conceptual design, can be considered complete only when a discussion about it has been held and when justified remarks and suggestions have been integrated into its text. The conceptual outline is the basis for creating the ("implementation," "applied," "operational") research project because its content (a certain degree of elaboration and concretization of the basic research idea) and its character as a document are dual (scientific and operational), and it truly contains or at least should contain all the necessary postulates: (1) the paradigmatic orientation; (2) the basic research idea; (3) the starting knowledge and initial hypothetical proposition about the phenomenon, problem, and subject of research; (4) the spatial and temporal definition; (5) the methodological-methodical propositions; and (6) the material-financial and personnel framework.

The exposition on conceptualization has not answered two essential questions: first, is conceptualization necessary when approaching all scientific research; second, if it is necessary, or for those cases for which it is necessary, must (should) it be the same, or are certain deviations allowed.

An essential task of research conceptualization is to, through a specific procedure, prepare the most favorable conditions and valid foundations for creating an applicable scientific research project and to ensure the consistent realization of the basic research idea from the moment of starting the project creation up to (and including the presentation of) the research results. Our methodological research has shown us that conceptualization does not end with the testing of the project, that is, with pre-research-as we too, until recently, thought and claimed in the book: Termiz, Dž., Milosavljević, S.: "Introduction to the Methodology of Politicology", Sarajevo, 1999, p. 346. On the contrary, it fulfills a guiding and controlling function even during the scientific use of the research results. Keeping in mind the real functions of the basic research idea and conceptualization, we can take the standpoint: conceptualization, as an essential component of scientific, and especially empirical research, is necessary in all cases in which the creation of a research project is recommended.

The answer to the second question is somewhat different. Conceptualization is not of the same scope, structure, and procedure in all research. The differences between theoretical and empirical scientific research are particularly visible. This is especially reflected when conceptual analysis is understood and conducted as theoretical research. In this sense, the views of M. Vujević in the book "Introduction to Scientific Work", Zagreb, 1988, are very interesting, in which he links conceptualization to concepts and says on p. 70: "The path of the emergence of a concept goes from objective reality through sensory experiences to thought. This process is called conceptualization." And on p. 72 he continues: "Conceptualization is a historical process. The individual acquisition of a concept is not the same as its conceptual emergence." It is obvious that for a theoretical researcher of the mentioned subject, a preceding conceptualization is not necessary. However, the research of concepts can also be strictly empirical, and for that, both conceptualization and a project are necessary.

Research practice has, so far, demonstrated three ways of relating to conceptualization: (1) the creation of a complete conceptualization, which is scientifically functional; (2) the partial creation of a conceptualization by focusing on creating only the project task or the conceptual outline. This can be justified in some types of action research with no or small scientific goals and low scientific significance, which solves a scientifically and socially known problem with an already, in principle, known action; (3) abandoning conceptualization and directly proceeding to the creation of the research project, which is most common when the commissioner and the researcher are the same subject. But even then, certain parts and forms of conceptualization are realized-at least through oral communication. Not infrequently, certain discussions that should have been held during conceptualization are moved into the framework of considering the research project.

It is justified to raise the question of the need for creating a conceptualization in the cases of panel and verification studies. For a panel study that is conducted in the second, third, or n-th wave, conceptualization is superfluous because these are just different-timed realizations of the same research idea, concept, and project. But the case is not the same with verification studies. In some cases, conceptualization is recommended, and in others that have the properties of a panel study (e.g., a verification study that is repeated over a certain time), a new (repeated) conceptualization is not necessary.

However, in each individual research project, the need for conceptualization in the specific situation should be considered.

Given that conceptualization is also performed during the creation of the report on the research results, directly or indirectly, it is necessary to insist that the procedure of conceptualization is truly carried out in all scientific research, including scientific research for commercial purposes.

1.2. Reconceptualization

Reconceptualization can be understood in two ways. First, a very widespread understanding is that reconceptualization is a process and action in the opposite direction of conceptualization. Essentially, true reconceptualization means a repeated conceptualization, which implies abandoning one basic idea and research concept and replacing it with another. This is an exceptional case in research in the social sciences. And, as a rule, reconceptualization in this drastic form does not occur in research in which the research project was properly done and whose creation was preceded by conceptualization.

Second, a more contemporary understanding of reconceptualization understands it as a component of conceptualization itself. If we analyze the procedure of the first stage of conceptualization, we will come to the conclusion that its entire course is simultaneously a reconceptualization. Namely, already in that first stage, the provisions of the conceptualization are subjected to reconceptualization at least four times in an organized and purposefully goal-oriented manner through the modification of certain propositions, relationships, and orders.

For this reason, it is justified to understand reconceptualization as: (a) directed, ongoing partial reconceptualization; (b) partial reconceptualization forced by an error in the application of the provisions of the conceptualization; (c) partial reconceptualization forced by an error in the conceptualization (a conceptual error); (d) supplementary conceptualization as a subsequent one for an area that remained uncovered by the conceptualization. And also the extreme case of a complete or predominant replacement of the concept and the basic research idea.

The procedure, stages, and phases of conceptualization are a protection against the need for major reconceptualization interventions, which is extremely difficult and expensive in empirical research-and never, due to the unrepeatability of social phenomena-gives the expected and desirable results.

The primary and most common sources of the need for a complete or extensive partial reconceptualization are:

- social and scientific incompetence;
- insufficient systematization and concentration in work;

– disrespect for the procedure and norms of conceptualization and design, realization, and presentation of the research;

– insufficient conscientiousness and irresponsibility.

2. Creating the Research Project

The research project is a complex document that includes two types of content: scientific content, by which it is defined as a scientific document, and an operational part of the content, by which it is also defined as an operational document. By its role, the research project is a normative, planning document that expresses, as completely as possible, the concept of the scientific research process from the initial understood problem to the eventual application of the research results.

In the science of the methods of scientific knowledge-methodology-differences still exist today in the understanding of the research project. Thus, M. Vujević says in the book "Introduction to Scientific Work": "Equating the experiment with the entire research leads to the mixing of the project and the research outline. However, the research project elaborates the entire research concept, and the outline is a part of the project that plans the research conditions that will enable us to test our hypotheses" (p. 85). According to his understanding, the content of the research outline consists of: a) the methods that will be used in the research; b) the source of data; c) the time, place, and conditions of the research; d) causal; e) descriptive; f) successive; g) comparative; h) control experimental; i) cross-sectional; and j) longitudinal research outlines (in the mentioned book, pp. 75-81). Without entering into a critical consideration of the definition, the provisions of the content, and the classification of the research outline, on this occasion we will only state: (1) the research outline is only a part of the research project, which is in fact a complete blueprint of the scientific concept of the research that forms a coherent and consistent system; (2) in that system, there are parts that follow in a logical order, and each of them deals with a specific problem in a necessary connection with the previous part and the other parts. One of the parts of the research project is the manner of research, whose content and function are very similar to the research outline. (3) The classification of the research outline is not necessary, because as part of the project, it cannot deviate from the classification of the research itself, or of the research projects. Second, it does not apply the same classification criterion. For example, the outline of experimental research, which shows the research method, cannot be put in the same category as the outline of longitudinal research, which speaks of the type, but not of the research method.

Without denying the usefulness of the presented view, the obligation remains to view the research project as a functional scientific and organizational-operational whole that prescribes the procedure for realizing the process from the initial idea to the constitution of scientific knowledge and its eventual application in practice. In this system, each part is conditioned by the other parts. Unlike other systems, in this one, there should be no dysfunctional factors. Otherwise, the project is not good.

The research project itself is a mental model of the research process and a mental model (concept) of the phenomenon being researched. The concept is based on a model of society-of its structure-that is derived from the total human knowledge about society and on the basis of which a model of a typical research subject is formed. The research project that we will present here can be considered an idealized theoretical-practical model.

The role of the research project is to be a valid scientific basis and a means of managing the research.

The essential components of a research project are: (1) the title - the thematic definition of the research project; (2) the formulation of the problem; (3) the definition of the subject of research; (4) the goals of the research; (5) hypotheses and indicators; (6) the manner of research; (7) scientific and social justification; (8) the research plans.

The creation of a research project is a system of mental, goal-oriented, and systematic action. There are two essential determinants of the work on creating a research project: (1) the development of the scientific fund of knowledge about the subject of the science and the method; (2) the previously performed actions in preparation for the work on the project.

The designation of a meaningful mental activity of a human (mankind) is justifiably attributed to designing. The argument for this understanding is the action of the researcher in which, through the activity of his mind and other mental powers, he discovers and articulates a phenomenon that is a social-scientific problem and articulates it into a subject of research, and then selects, activates, and combines existing knowledge about them. He connects all this knowledge and establishes functional relationships between them, forms meaningful orders, and with his critical thinking, based on all of this and about all of this, builds his own propositions, judgments, and conclusions from which he forms a meaningful whole-the research project.

The creation of a research project can also be viewed as a process of the emergence of a dynamic, meaningful, and functional system. The activities by which the project is built are coordinated and synchronized in a systematic order, by the distribution of roles and functions.

The properties attributed to the activities of building a research project are: scientific character, professional expertise, and spiritual-intellectual creativity.

The mentioned activity is *scientific* because it requires the ability to use specific scientific knowledge, which is reflected in the use of the scientific fund, the recording and activation of existing knowledge, its interpretation, and its application in the creation of new scientific knowledge-which is truly manifested through the work on the research project and the project itself.

The property of *professional* expertise in the work on a research project is attributed because during the creation of resource plans, the performance of administrative and informational tasks, transport, furnishing of premises, protection of property, etc., but also during the performance of field research actions, professional and mostly routine tasks are performed. Along with intellectual tasks, some manual tasks also appear here.

In order for a scientific research project to be properly built, in addition to scientific knowledge and skill, scientific research experience and knowledge of the norms of valid logical thinking, certain specific psychological states and abilities are also necessary, such as inspiration, imagination, intuition, pronounced curiosity, a feeling of the need to create (creative drive), giftedness, etc. A scientific research project is a newly created intellectual "creative" product for which the trait called *creativity* was necessary.

The degree of participation of scientific, professional, and routine (and manual) activities, as well as the necessity of the mentioned specific psychological states and properties, depends on the type and other properties of the research project, the scientific research practice, the richness of the scientific fund, and the characteristics of the problem and the subject of research.

An attempt to form a list of mandatory activities in the creation of a research project was made in the book "Introduction to the Methodology of Politicology" p. 348. The list cites the following activities:

(1) "observation and understanding (by any means) of the problem and the subject of research, that is, their manifestation;

(2) preliminary identification - isolation from the total social reality and consciousness of it;

(3) preliminary definition and classification by analogy (of the problem and subject) - according to the criterion of relatedness, similarity, and difference with other phenomena and problems, as well as by significance;

(4) analysis of the isolated and defined phenomenon - problem;

(5) conceptualizing a model of the problem, subject, and situation and their elaboration."

This list could be elaborated in more detail, but even as it is, it is a sufficient basis and framework for the analysis and understanding of the work on creating a scientific project for scientific research.

The understanding of a scientific research project as a basic, normative, and guiding document, which defines the understanding of the problem and the subject of research, determines the processes of their further and deeper cognition, and prescribes plans and instructions for performing concrete actions, the means and behaviors during various phases of the research, as well as the organizational scheme of the research. A research project must fulfill certain functions.

Its most important functions according to the criterion of scientific knowledge are:

(1) connecting scientific theory (in some cases, theory in general) and scientific-research practice. It achieves this by connecting previous, current, and future (expected, forecasted) scientific knowledge through selection and critique;

(2) guiding – managing - directing the course of the research (a directive-guiding function). It achieves this function by defining concepts, determining their meaning, and establishing a hierarchical order of concepts, by standardizing and controlling behavior in the collection, processing, evaluation, interpretation, and use of data, in explaining the phenomena that are the problem

and the subject of the research, etc. With it, it ensures the necessary cognitive unity;

(3) coordinating and synchronizing (a coordinative function) which ensures the spatio-temporal, functional, and purposeful unification of research activities and, especially, their timeliness.

The research project is, therefore, a theoretical-practical, dynamic structural-functional model of a system of scientific research, primarily empirical, applicable to all types of research. And each of its parts is also a structural-functional whole.

2.1. Determining the Title-Topic of the Research

The title - the topic of the research, due to its role and significance in the creation of the research project, is built - determined through the complex process of the first stage of conceptualization, but it can happen that it is also the subject of reconceptualization.

The building of the title (hereinafter we will only use the term "title" for the sake of economy of exposition) begins with the naming of the problem. During the identification of the research problem, especially a scientific problem, a position on its nature must be expressed and it must be defined (named) in some way. This naming is, as a rule, the path to a descriptive title which is, in fact, a condensed statement of a description.

The project (research) task already carries a formulated title. This is a possible, or probable, preliminary title of the future research which aims to express the essential characteristic of the probable (still preliminary) subject of research. The discussion about the project (research) task is simultaneously a discussion about the title. If the definitions of the research problem and subject are changed, the title must (should) be adapted to the changes made.

The conceptual outline (conceptual design) carries a much more elaborated title which, although still preliminary, is significantly closer to the title of the research project. This is possible because in the conceptual outline, the treatment of the problem and the subject of the research is more complete and more scientifically founded than before. The consideration of the conceptual outline can lead to changes that also require changes in the title.

The work on creating the research project also begins with the formulation of the title. However, this initial title is also preliminary, although it is built on the basis of the results of the consideration of the project (research) task and the conceptual outline (conceptual design).

The reason for the preliminary nature of the project's title lies in the relationship between the title and the subject of the research, that is, the articulated essential, basic idea of the research. The title cannot be arbitrary or express only a thin logical connection with the content, which is often the case in fictional literature, *but should express briefly, specifically, clearly, and precisely the essence of what we are researching*. The title has the *role of a preliminary definition of the subject*. It obligates the research to a specific content, place, and time.

During the process of determining the name-title of the research project's topic, at least three theoretical questions arise:

1) The consistency of the topic with the subject of the science-scientific discipline within which the research takes place. This is complex because a problem of reality can be very complex, representing a research problem for several sciences-scientific disciplines, and because the topic, or the subject of the research, is derived from the research problem.

The topic (title, name) is a preliminary expression of the relationship between the research problem, the problem of the specific research, and its subject. Namely, the research problem is not identical to the problem of the specific research. The research problem is significantly broader, even when it belongs to only one science or only one scientific discipline, than the problem solved by one specific research project. The essential characteristics of the problem of a specific research project (its implementation project) fundamentally contain aspects, moments, factors, etc., of the research problem from which it starts.

2) The second theoretical question is the consistency of the topic with the actual subject of the research of the specific research project.

Can it happen, due to the nature of the relationship between the problem and the subject of the research, that the topic is consistent with the problem, but not with the subject of the research in question? Let us recall: the subject of the research is not a simple concretization of the research problem!

Namely, this is a matter of deduction and specification, because the subject in one research project never exhausts the problem. In order for the problem to be fully concretized in one project, it would be necessary to form a set of research subjects that would encompass all the essential varieties of possible research subjects that can be derived from the problem.

3) The third (theoretical) essential question is the consistency of the essential characteristics of the topic (which express the connections with the problem and the subject of the research) with the statement about the topic-with the formulation of the title (Termiz, 2016, pp. 94-95).

The title is expressed in the scientific language of the relevant subject science of a certain degree of development and precision of the meaning of concepts and terms and their constructions. Many limitations arise from this requirement, such as the exclusion of homonyms and synonyms, ambiguity, and the use of certain conjunctions that reduce the specificity of the title's statement.

The title imposes on the researchers creating the research project the need to, in the formulation of the problem and the definition of the research subject (especially in them), address the content that arises from the provisions of the title.

Titles can have various features. Without intending to create a systematic classification of titles on this occasion, we will mention some common distinctions. Thus, one can often hear that a title is too broad and that it is imprecise, unclear, indefinite, too ambitious, etc. In considering the properties of a title, we would focus on its content, complexity, and form of statement. According to the first criterion, we would distinguish between: (1) valid titles; (2) titles with flaws; and (3) wrong titles. The first express the essence of the research; the second are not precise enough or have other flaws, and the third do not have even the minimum necessary connection with the essence of the research. Each of the mentioned types of titles can, by its form of statement, be: (1) descriptive; (2) explicative; (3) prognostic; and (4) comparative. We would single out symbolic titles as a special type.

By descriptive titles, we mean a qualitatively described statement (e.g., Social Stratification of the Population in BiH in the Period from ________ to ________). An explicative title could be: "The Causes of Social Stratification of the Population in the Contemporary State of BiH". A prognostic title could be: "Probable Trends in the Social Stratification of the Population during the First Decade of the 21st Century". All the cited examples differ more in content than in the form of the statement and its other features. In this sense, the existence of overly broad, proportional (measured), and lapidary titles can be noted. An overly broad title can be understood in two ways. The first is that too many words were used in formulating the title, which can be corrected relatively easily. The second is the over-extensiveness of the demands on the research that arises from the imprecision of the title. For example: "Economy and Culture in BiH". Such a title is too broad in its demands on at least three grounds: the imprecision and comprehensiveness of the central concepts, "economy" and "culture," because the economy is an integral part of a society's culture; second, the relationships that are the subject of the research are not specified. The conjunction "and" implies-and sets the demand-that all relationships be researched, which is not a realistic aspiration; third, neither the temporal nor the spatial definition of the research subject is sufficiently clear.

The cited examples are a sufficient argument in favor of conscientious and responsible engagement in formulating adequate titles.

The third criterion is the complexity of the title. In order to avoid an overly broad, narrative title, the principle of a simple statement (as a rule, with a simple or simple-extended sentence) is abandoned, and one resorts to: a) a statement with a complex sentence, which is reminiscent of the Latin titles of documents from the early Middle Ages; b) adding a subtitle or an additional brief explanation. Without denying that such titles cannot always be avoided, it must be asserted that titles of less complexity are more specific, clearer, and more appealing.

Starting from the role and significance of the name-title of the topic in the creation of the research project (implementation, applied, operational), as a preliminary definition of the subject, the subject of the specific research and its definition are sought throughout the entire scientific concept, which raises the question: is not the discovery of a discrepancy between the preliminary definition of the topic and its final definition after the creation of the scientific concept of the research project simultaneously also a demand for reconceptualization?

In other words, is not the replacement of the topic's name a replacement of the basic idea and concept of the research?

During the creation of the scientific concept, the title-name of the topic is subjected to verification at least twice. The first time is after the creation of the operational definition of the research subject, when the correspondence of the title-name as a general statement with the actual content and properties of the research subject is checked, during which a theoretical check of the research subject's definition is also carried out by checking the definitions, their mutual relationship and their relationship with our statements, and by checking the logicality and meaningfulness in the research project, and the second time is at the very beginning of the creation of the 'manner of research' in the scientific research project.

In principle, it is possible for the topic, after the creation of the scientific concept of the implementation research project, to be:

a) replaced (for the original topic to be completely abandoned and a new one to be established), which requires a complete or partial reconceptualization. A complete reconceptualization would imply the annulment and repeated renewal of the entire preceding course of conceptualization, while a partial reconceptualization would imply the new creation of an outline of the scientific concept that would ensure the consistency and coherence of the provisions of the topic and the other parts of the project (the scientific concept).

b) reformulated; the reformulation of the topic does not require reconceptualization, but only a revision of the statement about the topic.

The theoretical and meta-theoretical, methodological and meta-methodological aspects of the topic (name, title) of a research project, which have their basis in the practice of contemporary research-subject-related and/or methodological-allow for the establishment of general rules for forming titles:

a) the first rule is that the title clearly and precisely expresses the essence of the research subject;

b) second, the statement of the title must be concise, but not terse;

c) third, the language in which the title is expressed must be the scientific language of the relevant subject science or scientific discipline.

Therefore, we operate with three kinds (types) of titles:

(1) the preliminary title with which we begin the work on the research or the design (project) of the research;

(2) the working title, and

(3) the final, definitive title.

Simpler, less complex, and less comprehensive research studies allow for and make it possible for there to be one and the same, unified, adequate title.

One of the relatively common mistakes in formulating the title of a research topic is the incorporation of the research method into the title, although the method does not belong to the subject of the research. For example: An analysis of the elections in the Year "X". Likewise, one of the mistakes is the use of terms in the title. Ambiguous terms, expressions and words from foreign languages, and the like can make the title difficult to understand.

Keeping in mind the fact that the procedure for formulating valid, functional titles has not been sufficiently researched to date, we cannot offer scientifically-based rules. Instead, on the basis of an analysis of a corresponding number of relevant titles-topics of scientific research projects and the identified errors in them, we will offer only a few essential suggestions:

(1) understand the title as a briefly stated preliminary definition of the research subject;

(2) strive to achieve full content and logical connection between the title and the definition of the research subject;

(3) strive to express the essence of the research idea as accurately and precisely as possible with the title;

(4) do not avoid a multiple, repetitive procedure when formulating the title;

(5) in formulating the title, do not use conjunctions, unless the provisions between which you place them are strictly defined;

(6) do not use insufficiently known and ambiguous terms and foreign words and expressions in the title-unless it is unavoidable.

2.2. Formulating the Research Problem

The work on the research project and on its first, predominantly scientific segment, which is called the blueprint of the scientific concept, begins with the formulation of the research problem.

The blueprint of the scientific concept is a complex segment of the project within which the initial scientific knowledge, scientific categories, concepts, propositions, judgments and conclusions, hypotheses, variables and indicators, and methods for researching the phenomenon, problem, and subject of research, as well as data processing methods, are presented.

It is a distinct whole and a system of scientific-theoretical and methodological propositions about the essence of the research. However, the standpoint that it is an exclusively scientific segment cannot be accepted because it also contains the manner of research (along with the formulation of the problem, the definition of the research subject, goals, and hypotheses), and its integral parts are the techniques-instruments and procedures of research, as well as the psychological and scientific strategy. The procedures and the psychological strategy also imply instructions on how to act and handle the instruments. This part cannot be considered exclusively scientific, but partly operational, normative, and instructive as well.

Therefore, the blueprint of the scientific concept is a predominantly and primarily scientific segment of the research project.

The first part of the project and of the blueprint of the scientific concept is the formulation of the research problem. Social phenomena are very complex, and thus there is no single social science; rather, the subject matter of the social sciences is divided into various sciences and scientific disciplines. In research practice, it is not known for any research to have successfully encompassed all aspects, factors, relations, connections, activities, properties, etc., at once.

That is why the formulation of the research problem is necessary, which is preceded by the identification of the problem that initiated the research. Based on this, we determine whether it is a scientific problem and whether the problem belongs to our scientific discipline, in order to finally arrive at formulating the problem that we will scientifically research in the specific study.

The formulation of the research problem in every research project is a significant and very useful part because:

a) it connects previous knowledge and ignorance about the research problem (the problem of the specific research), thereby in fact enabling the derivation of the research subject;

b) it is the product of theoretical research.

The essential role of the formulation of the problem has the following basic functions:

(1) isolating parts of the phenomenon, their dimensions, and features that can be identified as factors of the problem belonging to a certain science-a scientific discipline;

(2) establishing well-founded hypothetical propositions about the problem that can serve as one of the bases for deriving the research subject;

(3) ranking the isolated problem and its parts by their degree of significance;

(4) directing attention to the existing results of previous research that are relevant for the research in question.

The mentioned functions are partly realized through special, defined parts of the formulation of the problem, and partly without being limited only to individual parts or just the formulation of the problem.

The basic parts of the formulation of the problem are: (1) hypothetical propositions about the problem; (2) the definition of the significance of the research (and the problem); (3) the results of previous research on which the research relies.

1) Hypothetical Propositions

Every problem manifests itself through:

(1) its structure;

(2) its relations and connections, and

(3) through its functions (and dysfunctions).

Basic hypothetical propositions should be formulated about these.

In research practice that uses a complete research project, it is common to formulate three or four basic hypothetical propositions. It should be understood that the basic hypothetical propositions are not the hypotheses that will be directly tested, but rather propositions based on existing scientific and other knowledge that serve to present the problem and to derive the research subject. As a rule, the following are formulated: (1) a general hypothetical proposition about the problem as a whole; (2) a hypothetical proposition about the structure of the problem; (3) a hypothetical proposition about the functions of the problem; and (4) a hypothetical proposition about the connections and relations.

Sometimes, the general hypothetical proposition about the problem as a whole is omitted. This is compensated for by formulating the other three hypothetical propositions.

In fact, after the definition of the research subject is created, the selected contents of the basic hypothetical propositions will find their place in the statements of the hypotheses.

The hypothetical propositions are doubly determined. First, they are determined by the phenomenon and the problem being researched. Second, they are determined by the topic-the title, i.e., the preliminary definition of the research subject. Thus, the contents of the basic hypothetical propositions are directed or at least guided towards the research subject and the hypothetical framework.

2) The Significance of the Research (and the Problem)

The significance of the research is twofold: first, it is the significance of the research for solving the social aspect of the problem; second, it is the scientific significance, i.e., the significance of the research in terms of its scientific contributions to science. The standpoint on the significance of the research is derived on the basis of an expert assessment of the significance of the problem for science and society and the probable contribution of the research. Determining the significance of the problem and the research is undoubtedly a responsible and subtle task. The criteria we list are only a limited help in this due to their properties and requirements. They are:

(1) for the *significance of the problem*: it should be determined based on four criteria:

a) prevalence;

b) duration;

c) tendencies; and

d) influence and impact, as well as the properties of the research.

(2) for the *significance of the research*, specifically:

a) *social significance*: the impact of the research and the research results, the scope of the impact on the understanding and resolution of the problem, the dissemination, duration, and intensity of the research's impact;

b) *scientific significance*: the impact of the research results on the fund of scientific-theoretical and general scientific knowledge, the scope of that contribution, its dissemination, duration, and intensity.

The essential functions of this part of the formulation of the problem are:

(1) dimensioning the expectations from the specific research;

(2) forecasting the place and role of this research in the current process of scientific knowledge and in the resolution of current social and scientific problems;

(3) establishing a framework of obligation for the specific research.

3) *Results of Previous Research*

The third part of the formulation of the research problem expresses the paradigm, the theoretical-methodological foundations, and the orientation of the research. With this, we articulate the foundations for the content-related, methodological, and organizational solutions in the further design and realization of the research.

In this part, the essential scientific findings on which the research in question primarily relies are presented. This is a justified requirement because in society there are various approaches and theoretical-methodological schools, and it is expedient to point to the specific (paradigmatic) scientific standpoints. This makes the overall position of the research in its approach to the problem clearer.[5)]

2.3. Defining the Subject of Research

Defining the subject of research in the project should be understood as a very complex and multidimensional theoretical investigation[6)] that takes place through several phases, most often at least three. The first is the consideration, grasping, and understanding of the preliminary definition of the subject formulated through the determination of the title of the research topic. This was discussed in the previous section. The second phase is the theoretical definition of the research subject, and the third is the operational definition of the research subject.

In methodological literature, since the preliminary definition is given through the name-title of the topic, the theoretical and operational definitions of the research subject are viewed as integral, separate parts of the subject of research.

1) Theoretical Definition of the Research Subject

The basis for defining the research subject is given in the previous stages of work on the research design, specifically: (1) during the first stage of conceptualization in the course of which the project (research) task was reached, then the conceptual outline (conceptual design) and the preliminary name - title of the research topic; (2) in the formulation of the problem, and especially in the basic hypothetical propositions and the results of previous, primarily related, research on which we rely when creating our research project.[7)] This prior basis is essential for dimensioning, defining the content of, and forming the research subject. The formation of the research subject requires that we express in the subject of research that which is unknown or that about which knowledge has not yet been scientifically verified. Therefore, this unknown needs to be stated in the research subject. How can this contradiction be overcome? Although at first glance a very deep contradiction, in the practice of research it is resolved in the following way. First, there is a perception of something, because one cannot perceive nothing. What we have perceived, at a given moment, we do not know what it is (perception of the unknown), but we observe it, study it, and determine the similarities and differences with objects known to us or with our concepts of objects, processes, and relations. It is precisely this process of meaningful study of the perceived that is the basis during which we name the object of observation and discover the similarities and differences of the perceived object, and then through induction-synthesis, by connecting the factors into a whole, we form the subject of research.

At a certain level of scientific knowledge, which is clearly revealed through the subject of research, the basic orientation is on discovering "what it is that we do not know," while at a higher level of knowledge, the orientation is on discovering what we do not know and whether we know what we know correctly.

This is achieved with full consideration of the following basic functions of the research subject:

A) establishing the essential categories of concepts, their meaning, and sense, in the project and in the realization of the research. This also implies an appropriate attitude towards the signs, symbols, and terms with which we express them;

B) strictly selecting what we will cover with the research from the total content of the problem formulation. This implies recording and processing the content, structural factors, their properties, external and internal connections, their past, present, and anticipated situations, qualitative and quantitative determinations, etc., and

C) temporal, spatial, and scientific-disciplinary definition.

By performing the mentioned basic functions of the research subject, that which is the task to be researched through the realization of the project is purposefully singled out from the multitude of possibilities.

The theoretical definition of the subject starts from the enumerated postulates and builds a theoretical framework and a system of definitions, concepts, and propositions of the research subject.

The theoretical definition of the research subject is a theory about the subject of research based on paradigmatic propositions and previous scientific-research actions in the conceptualization of the research. This theory has segments of various levels of truth, probability, and possibility, and is primarily of a prognostic character. The theoretical definition of the research subject is not a description and explanation of the subject, but a theoretical concept of a possible, not-yet-existing social reality or of an existing reality about which we do not have sufficient knowledge or that knowledge has not been scientifically verified. In this way, the theoretical definition of the subject establishes a link between existing theoretical knowledge, and between theory and the practice of research.[8)] In essence, the theoretical definition of the subject as a theoretical investigation ascertains: (a) what theoretical knowledge exists about the subject; (b) what kind of knowledge it is - what is its scientific status. Are they axioms, theorems, scientifically verified or only hypothetical knowledge, etc.; (c) are there, besides scientific and scientific-theoretical, some other, non-scientific kinds of knowledge; d) are there certain factors about which there is no recorded knowledge, that is, are there gaps in that knowledge and of what character, etc.

The theoretical definition of the research subject is a theoretically imagined model of some past, present, or future phenomenon about which there is not sufficient and valid scientific knowledge as a whole. It is also a conceptual-categorical system (order) that enables a logical, meaningful, and systematic understanding of the research subject as a factual, probable, or possible social reality of certain properties, that is, of its qualitative-quantitative determinations.

The theoretical definition of the subject, precisely to fulfill its described role, consists of two wholes. The first deals with the research and expression of existing scientific and other knowledge about the research subject; the second, with the categorical-conceptual apparatus and terms. These two wholes do not have to be, and in practice are not, physically separate, but can interpenetrate.

The structure of the theoretical definition of the subject actually consists of: (a) scientifically verified knowledge; (b) scientifically recorded, but not yet verified knowledge; (c) non-scientific recorded knowledge; (d) not yet recorded, but possible and probable, derived knowledge.

Scientifically verified knowledge are the starting points in building the theoretical definition of the subject, and they have the status of "scientific facts" as a specific type of intellectual fact. Except in the case of "scientific revolutions," when the existing paradigm is rejected and replaced by a new one, they are not widely expressed and are not the true subject of research. But, if it is true that science and scientific knowledge are developmental both horizontally and vertically, then in that case, we must accept the position that at least a part of scientifically verified knowledge is not verified knowledge forever. At the basis of this position is the proven scientific knowledge about the changeability of the human environment, the changeability of people, and especially the changeability of human knowledge, skills, inclinations, and orienting values and religions. Precisely because of the mentioned undisputed facts, that is, due to the changes in society, man, and nature, scientifically verified knowledge must be understood flexibly and viewed at least dichotomously: as permanently verified based on contemporary knowledge at the time of research, e.g., "humans are mortal," "persons with disabilities are people who have suffered physical or mental impairments throughout their lives, which more or less hinder them in normal functioning-differently in various spheres of human and social life," then temporarily verified scientific knowledge that refers to the current psychophysical consequences of individuals, their properties, and personal characteristics as well as the characteristics of knowledge, and that scientific knowledge that will never be researched again or may be exceptionally so in cases of fundamental changes.

Scientifically recorded, but scientifically unverified knowledge, represents a type of scientific fact-"cognitive facts"-which we understand as accepted but not yet proven scientific knowledge and which is functional in the acquisition, development, and verification of scientifically recorded knowledge. It has a dual role: a) the role of an inspiring starting point and basis for hypotheses; b) the role of a true subject of research-primarily of verification studies.

Non-scientific recorded knowledge can be of various types, from professional to simply experiential. It can be organized and systematized, but it can also be without a meaningful arrangement. Given that, as a rule, the phenomena to which this knowledge refers are the true subjects of empirical research, the theoretical definition of the subject aims at their articulation and at pointing out possible criteria for their systematization and classification. At the same time, scientific foundations for their understanding and interpretation are sought.

A part of the theoretical definition of the subject is also "non-existent" knowledge. Namely, in scientifically recorded but unverified knowledge, there is evidently a significant portion of hypothetical knowledge, and their degree of foundation varies. Besides that, various gaps may exist within that knowledge. However, existing scientifically recorded knowledge and non-scientific knowledge (especially professional) can imply certain new knowledge. The theoretical definition of the subject, based on existing knowledge, derives and articulates possible and probable knowledge that will be able to serve as the content of hypotheses and for pre-testing through research.

Thus, the presented parts of the first whole, the theoretical definition of the research subject, determine:

a) the operational definition of the research subject;

b) the goals of the research, primarily scientific but also social;

c) the scientific and scientifically-based hypotheses in the research project, and

d) the basic type of research.

The second whole of the theoretical definition of the research subject forms the categorical-conceptual and terminological system. This is necessary for three reasons: first, every science has its own language which uses terms and concepts, signs and symbols whose meaning is strictly defined in that system of science; second, every methodological-theoretical school emphasizes its own paradigmatic categories and concepts whose role and meaning are determined by the order to which they belong; third, the terms and concepts in a single research project should be unambiguous, communicable with the terms and concepts in other research projects and, what is extremely important, they must as accurately and precisely as possible truthfully express the essential characteristics of the factors of social reality of which they are a correlate ("reflection"). This requirement applies not only to material things but to all realities that make up social reality.

Scientific research must be intersubjectively verifiable, and thus no part of it may contain expressions that are incomprehensible to the scientific community and users. On the other hand, the language used in research instruments and in communications with people as sources of data must not appear as an obstacle in communication. From the presented norms and standards, questions arise: first, to what degree and scope should the system of scientific language be communicated and elaborated in the theoretical definition of the subject; second, should a whole list of concepts, terms, and linguistic expressions that will be used in the realization of the research be offered already in this part.

In this part of the theoretical definition of the subject, definitions of the central concepts of the research and the concepts of the essential characteristics of the phenomenon-the model of the concept of the phenomenon-that is being researched must be given.[9)] For example, let us imagine that we are researching articles in the politics section of newspaper "X". Our central concepts are articles in the newspaper, the section, and specifically the politics section in the newspaper, the newspaper in general, and specifically newspaper "X". Each of these central concepts has its own content, structure, form, etc., because every newspaper has its own characteristics, every section has its own characteristics, every article has its own characteristics-qualitative and quantitative. In defining these characteristics and defining the criteria for classification and in classifying, the essential concepts and terms that are used in the research are formed. Thus, the categorical-conceptual system of the research is established.

Based on the analysis of the research process and the construction of the categorical-conceptual system of the research, we can state the existence of basic types of concepts, along with the possibilities of their numerous varieties, which we will not delve into on this occasion. The basic types of concepts are:

(1) concepts that we adopt in their entirety, accepting their given meaning and content, their place in the system, their relations with other categories-concepts, their scientific and cognitive function, and the terms by which they are designated;

(2) concepts whose content we adopt, but whose terms we select and specify;

(3) concepts that we revise;

(4) concepts that we construct from two or more concepts, and

(5) new concepts-concepts that we create for the needs of our research.

The process of building the categorical-conceptual system implies:

1) The choice of existing definitions and the selection of a single, consistent meaning for each of them in all contexts in which they may be found during the research;

2) The selection of terms by excluding synonyms and homonyms or, when that is not possible, their specification;

3) The establishment of a hierarchy of categories and concepts, which means deciding on the definition of those that will serve as basic and from which others will be derived and by which other derived and auxiliary concepts will be interpreted (Termiz & Milosavljević, 1999, p. 359).

The system of terms and concepts that will be used in the creation of research instruments is not communicated in this part of the research project. The conceptual-terminological system of the research, which arises from the scientific language of a certain science, is the basis for understanding and interpreting the meaning of all concepts and terms in the given research, but also the basis for establishing adequate relations with the terms and linguistic expressions applied in the creation of research instruments and their use. In the practice of research, at least three or four "lines of language systems" must be realized: first, the scientific language of the research project; second, the operational language of the field researchers; and third, the language of the respondents. In our example, it would look like this: the first "language line"-the categorical-conceptual and terminological system in the theoretical definition of the research subject; the second, the language (terms and linguistic expressions) embedded in the instrument-in this case, in the coding sheet and the codebook for the content analysis of the document; the third-the language of the analysts who will use the mentioned instruments in the analysis of the newspaper; the fourth-the language used in the creation of the subject articles.

The problem of the relationship between these four lines does not arise in this part of the project because the categorical-conceptual system is established here, to which all other conceptual systems are conformed. Permissible differences and deviations can only appear between terms, and that problem is solved within the framework of the methods and techniques of research and through the training and preparation of analysts, interviewers, surveyors, and observers, that is, field researchers.

2) Operational Definition of the Subject

The operational definition of the research subject is essentially a mental model of the essential characteristics of the research subject, i.e., a concept of the phenomenon, part, side, or property of the phenomenon, its movement, and its influence, which belong to the subject of a specific science or scientific discipline, or a larger number of them.

Already from this definition, it can be seen that this model does not encompass all the factors that make up the phenomenon, but only those that are understood as essential for the phenomenon in its role as a problem and subject of research (of the science) within whose cognitive framework the research is conducted. The operational definition of the subject is a selective model by which further specialization and concretization is performed, that is, by which the concretization and specialization of the problem and the subject is completed within the definition of the research subject.[10)]

The immediate and most complete source of scientific knowledge and the cognitive basis for the operational definition of the subject is the theoretical definition of the subject. With it, we have already formed the theoretical basis and arguments for the model that follows. That model is realized through a *taxative enumeration* of those structural factors, relations and connections, properties, and activities that will actually be concretely researched through the realization of this research project. This makes the assertion that the operational definition of the research subject creates a model of the order of variables and their presentation scientifically-methodologically founded. After that, there is no longer need to search for variables and to test them separately because they have emerged from a scientific system formed by scientific methods and because they are expressed as parts of that scientific system.

Although the operational definition of the subject is directly derived from the theoretical definition, its creation begins with the consideration and operationalization of the preliminary research subject, that is, with the repeated treatment and elaboration of the name-title of the topic. This time, it is done with full use of the knowledge achieved through the theoretical research within the theoretical definition of the subject. It is wrong to think that this is a repetition of work and that it is superfluous. Let us again take as an example the previously mentioned research topic: Articles in the politics section of newspaper "X". We already have definitions of the basic, central concepts and theoretical propositions about them that tell us about their essential properties, compositions, roles, functions, etc., and we can research all of this within the scope of the research subject. But the actual concretization and specification has not yet been performed. We still have not determined whether we will research all or only some articles and by what criterion we will select them, which properties and forms we will actually research, etc. We determine this only in this part of the project-the definition of the research subject. After the concretization and specialization have been performed, i.e., after the operational definition, it is not excluded that the title-name of the topic may be changed to some extent so that the general statement is more correspondent with the actual content and properties of the research subject.

After formulating the research subject, it is desirable to also perform a theoretical check of the definition of the research subject. It is realized by checking the definitions, their mutual relationship and their relationship with our statements, as well as by checking the logicality and meaningfulness in the (implementation, applied, operational) research project (Termiz, 2013, p. 53).

The operational definition of the subject consists of four parts: the first is justifiably called *"factors of the content of the research subject".* It should be noted that the research subject can be understood as a totality, as a structure, as a process, and as a system. No matter how we understand it, and it is most expedient to do so integrally, because that is an essential property of every social phenomenon, we must not neglect either the relatively static or the dynamic components, nor their real and logical orders and positions, roles and functions, their activities and effects, relations and connections. Within the content of the research subject, we must not succumb to the pressures of holism-according to which society is everything and the individual, man, is nothing, nor to the pressures of individualism and nominalism, according to which the individual is everything, and the group, community, and organization have no special quality. We must not succumb to the pressures of a qualitative or quantitative orientation either, because quantity is always a determination of some quality, and every quality has quantitative determinations-even when we do not know them. Within the first part of the operational definition of the subject, we present a concrete, systematized by segments and arranged in a logical order, list of what we will actually research. In connection with this, two questions arise: first, do not concepts and definitions belong in this part; second, does not this systematized taxative enumeration also require certain explanations? To the first question, the answer is that theoretical definitions of concepts, etc., must be given in the theoretical definition of the subject, but that in this part as well, if it is unavoidable, certain concepts are defined with reliance on the system built in the theoretical definition and in accordance with it. The answer to the second question is that if the theoretical definition of the subject is sufficiently well done, as a rule, there is no need for additional explanations.

In addition to the function of specifying what will be concretely researched, this part of the operational definition also performs the function of forming the basis for the content of the hypotheses!

We express the factors of the content of the operational definition of the research subject with reliance on the model of a typical research subject (a structural-functional model) as the central and basic model, which will be the subject of treatment in the continuation of the exposition within the general model of the research subject in the social sciences.

The second part of the operational definition of the subject is the *temporal definition of the research* subject. It starts from the undisputed fact that all phenomena, processes, events, etc., take place in a specific time and are determined by it. However, understanding that time is a form of the existence of things, we state that social phenomena are an expression of and are determined by two types of time: a) chronological ("astronomical") time as the determination of the date of an event; b) social (historical) time, understood as a period of certain dominant social characteristics-like the "slave-owning socioeconomic formation," "wartime," "the period of bombing," "the transition period," etc. We must note that within the operational definition of the subject, a date determination by "astronomical," "chronological," "calendar" time is required, and not by social time. Calendar time determines the time of the occurrence of a specific phenomenon that we will cover with the research, and not the duration of the research.

The third part is the *spatial definition of the subject*, that is, the definition of the space in which the phenomenon-the subject of the research-takes place, and which we will cover with the research.

The fourth part consists of the *scientific-disciplinary definition of the subject*, which means that we determine within which science or scientific discipline we are realizing the research. The research subject and the research can be monodisciplinary and ("interdisciplinary") when they take place within several scientific disciplines. Interdisciplinarity is recommended, which leads to certain specificities and difficulties, so in practice "intradisciplinarity" research is more common.

By properly creating the subject of the research, we have prepared the basis for approaching the creation of the research goals and, after them, the hypotheses (the hypothetical framework).

2.4. Research Goals

In older literature, no distinction was made between the subject, tasks, and goals of research.[11)] There are two key reasons for this. First, there is a very close relationship between the subject and the goals of research, as well as between the subject, goals, and tasks of research.

The scope, degree, and properties of the knowledge about the research subject, as expressed in the theoretical definition of the subject, along with the intuitive assessment of the scientific community, determine the possibility of opting for a specific scientific goal and the possibility of a valid response to a social problem. As a rule, the more the research subject in the research project relies on scientifically verified knowledge, on scientific laws and scientific explanations, the more normal it is to set a higher scientific goal. This general rule is corrected by the type of research and its social and scientific significance, as expressed in the formulation of the problem. This requires that the research goals be specifically defined in every research project.

Within the determination of research goals, we distinguish two types (groups) of goals: scientific and social.[12)] Every research study has the general goal of acquiring scientific knowledge of a certain scope and level, and at the same time, according to the general concept and ideology of science, every scientific activity should be directed towards the well-being of people. This is the basis for distinguishing between scientific and social goals and for stating them separately in this part of the project.

1) Scientific Goals

Scientific research is a scientific activity, and the blueprint of the scientific concept is a scientific document. That is why scientific goals are formulated-defined-first.

Scientific goals are the designated levels of scientific knowledge that are intended to be achieved through scientific research and that will be contained in the research results. The possible scientific goals of research are: (1) scientific description; (2) scientific classification and typologization; (3) scientific discovery; (4) scientific explication; and (5) scientific prognosis.

Scientific description is, according to some views, the lowest scientific goal because it is achieved by describing manifest forms. This understanding is overly simplified. The description of a phenomenon is not the same as the description of the form of a phenomenon. B. Šešić, and also S. Milosavljević, when speaking of scientific dialectical description, pointed out that the factors of a phenomenon's structure, its relations and connections, causes and effects, its activities, movement, development, etc., also manifest themselves, and that they too can be described.[13)] This is correct. Also, description is a necessary, not just an initial, level of scientific knowledge and permeates all other levels. Sometimes it is very difficult to determine where and when description ends. For this reason, some authors have even equated a proper and valid complete scientific description with a scientific explanation, emphasizing that a scientific explanation is a description of the process of how and why something happens.

Scientific description is still a subject of dispute today. Some still consider it the lowest form and the lowest level of scientific knowledge, believing that it only expresses "aesthetic" knowledge-scientific knowledge of the obvious.

Others, on the contrary, believe that scientific description provides necessary and ultimate scientific knowledge, because when the factors of a phenomenon's structure, their relations and connections, their roles and functions are described, there is nothing more to look for. Scientific description is the lowest, but a necessary scientific goal. The significance of the scientific description of a phenomenon is, among other things, based on an essential scientific fact, which is that without a description of a phenomenon, there is no definition of it, and without a definition, there is no way to distinguish it, and consequently no way to study it further (Termiz, 2013, p. 55).

Our standpoint is that scientific description can have various scopes and coverages, but that it is the first, essential, and necessary level of scientific knowledge which is a condition for all other levels and which permeates them.

Scientific classification and *typologization* is the second level of scientific knowledge. It is understandable that classification or typologization is possible only when a phenomenon or a set of factors, properties, relations, forms, etc., has already been described and when they have been defined by that description. In research practice, scientific description and scientific classification as a rule go together. Scientific description also implies the discovery of relatedness, similarities, and differences. This scientific goal requires that the research form scientifically valid criteria for classification and that the factors of the research subject be grouped and sorted into specific wholes that are necessary for valid scientific knowledge about the subject as a whole. The criteria and procedures of classification do not have to be directly expressed within this goal, because they are for the most part already given in the theoretical and operational definition of the research subject, and their operationalization is concretized in the methods-instruments for data collection and the methods for organizing and processing data, as well as in the instructions for the work of field researchers. For example: we are researching articles in the politics section of newspaper "X". Natural classification criteria are belonging to genres, the structure of the article, the message, the addressee, bias (impartiality), basic orienting values, language and style, illustrations, thematic definition, author, readability, etc. However, if the scientific goal is the classification of the phenomenon-that is, the articles-it is so only in connection with the definition of the subject, and not independently. It is one situation if we are researching these articles only as an integral part of the newspaper and in that sense their qualitative and quantitative features, and another if we are researching these articles as a factor in newspaper sales, newspaper readership, the relationship of readers towards the messages, etc. Each of these variants of the subject, despite the common basis, also requires a number of additional criteria and classifications and a special network of relationships between the classifications. This is a very important question because of the connection between classification and definition (especially a characteristic one), as well as due to the fact that every classification is also a form of measurement.

Connecting classification and typologization into one scientific goal opens not only a concrete but also a principled question: is the scientific goal achieved if the classification has been performed, but the typologization has not? The principled nature of the question lies in the fact that some other goals also have multiple requirements, so the real question is: is the scientific goal achieved if only one requirement is met, or must all requirements be met?

Within this scientific goal, it is logical to connect classification and typologization, because typologization is really just a special form (case) of classification. Typologization is achieved by designating a certain characteristic of a phenomenon, one of its properties ("features") or several of them, as a criterion, and this criterion is applied to multiple units of the same kind. At the same time, when necessary, the limit of the validity of that criterion is determined, which can also be quantitatively defined. All units that meet that criterion, viewed collectively, form a certain type. For example, the type of "readable" articles consists of all the articles in the politics section of newspaper "X" that many (or most) readers read easily and with pleasure. The criterion for the type of "readable" articles must be properly elaborated. Typologization is very widespread in daily life: e.g., the type of a blonde, a brunette, an honest man ("an honest John"), etc.

The process of forming a type proceeds as follows: a certain feature, which is relatively frequent and is justifiably declared important, is taken from the classification. Then, a unified group that has the same or a related (not just similar) feature is formed by gathering related items around it, and thus typologization is performed, the effect of which is a certain type. In this sense, types are discovered related groups with homogeneous features by whose manifestation they are clearly distinguished from others. These features do not have to be significant or essential; they can be merely formal and only external, but they can also be essential. It is not wise to opt for typologization lightly. The reason for our focus on typologization is that it is connected with classification, which also has an analytical character; classification represents a form of the analytical method of specialization that is realized by dividing a whole (a concept) into multiple members (more than two-which is a dichotomy) according to a pre-defined criterion, the first form of generalization that can lead to the formation of a middle-range theory.

Is the scientific goal achieved, that is, does a goal formulated in this way set both requirements as an obligation? In this case, no. It is sufficient to perform a valid scientific classification that allows for an orientation towards a higher scientific goal. Here it should certainly be noted that within this goal, the formation of ideal types characteristic of Weber's understanding is not expected. However, typologization implies a certain idealization of the characteristics of the units of reality-a certain generalization of them with evident arbitrariness. If the criterion for the "readability" of an article also includes a provision about the number of readers, then, regardless of other properties, no article can belong to the type of "readable" if it is not read by, say, 51% of the readers of the section or the newspaper.

The scientific goal greatly conditions the possibilities of the social goal. In this case, valid classifications enable certain necessary social selections and the observation of similarities and differences according to scientifically known criteria.

Scientific discovery is a very complex scientific goal, but its definition is also subject to critical consideration. The dilemmas surrounding scientific discovery as a research goal arise from the following facts: first, every scientific research, whatever scientific goal we set, also contains an orientation towards discovery. Description, too, implies the discovery of phenomena and their characteristics, and then their description; second, when we have already formulated the research subject based on existing knowledge, how can we opt for scientific discovery. Namely, the objection is that one cannot discover something about which scientific knowledge already exists. The questions are logical and justified, and most researchers and authors of works on methodology do not list research goals or do not list scientific discovery as a scientific goal.

The logic of choosing scientific discovery as a scientific goal, which was first introduced into the classification of scientific goals by Bogdan Šešić after 1975, is as follows:

a) the changeability and developmental nature of social phenomena do not allow for the constitution of many universal nomothetic laws and scientific explanations, nor simple uniformity. Hence, there is no eternally valid and unchangeable, complete scientific knowledge about social phenomena and processes. It is justified and logical in certain periods of social movement and development to set scientific discovery of the changes that have occurred as a scientific goal;

b) even in the case of verification studies which check existing scientific knowledge, the accuracy, precision, truthfulness, and completeness of that knowledge-that is, their inadequacies, weaknesses, etc.-are discovered.

Scientific discovery can appear in certain research studies as an independent, predominant, and primary goal (which is most often the case in heuristic research), while in other research it can appear as one of the goals with a various status;

c) scientific discovery as a scientific goal sets as an essential requirement the scientific cognition of what is scientifically unknown or scientifically unverified, but also the occasional, more precisely, scientific-research check of what has been scientifically verified. There are many very changeable phenomena about which there are well-founded assumptions, estimates, etc., but scientific knowledge about them is very short-lived. A typical example of this is the number and composition of the population, education level, culture, attitudes, etc.

Every research of a scientific character necessarily strives to discover something new, unknown. The position of science is that the unknown is to be researched, that is, that through research one comes to know what was not known until then or that the respective knowledge was not sufficiently reliable. In every scientific research goal whose achievement leads to new scientific knowledge, discovery is also contained, in that something that was previously unknown has been discovered.

Scientific explication as a scientific goal implies scientific knowledge about cause-and-effect relationships, social laws, and scientific explanations.[14)] It is obvious that this is a synthetic and complex scientific goal. It is synthetic because it implies that the previous scientific goals have been achieved, that is, that they are contained within it. It is complex because it requires scientific knowledge about social laws and scientific explanations. Both of these kinds of knowledge require scientific knowledge about cause-and-effect relationships, but a scientific explanation does not also require the existence of strictly formulated scientific laws. Namely, in the social sciences, statistical and teleological scientific explanations are dominant, given that social consciousness (including individual) and social will (including individual), their characteristics, and their relationships play a large role in human behavior. Here too, the question arises as to when the scientific goal has been achieved, that is, whether it requires both knowledge of a social, or scientific, law and a scientific explanation, or only one of them. The answer in this case is somewhat different than for classification and typologization. A scientific law and a scientific explanation are relatively independent, and it is necessary to state them separately when formulating the scientific goal. This practically means that this scientific goal can be specified as one of the two requirements, or both requirements can be set.

Among methodologists, the question is still active as to whether a scientific law or a scientific explanation can be reached with a single research study.[15)] The answer is that, under certain conditions, it is possible. And the conditions are as follows:

a) that this research was preceded by other scientifically significant research studies by which social regularities about the relationships and sequences of social factors and social actions were scientifically known;

b) that the research in question has chosen for its research subject a phenomenon that can be researched by it; this means that its subject must not be oversized, that its manifestations must be evident, and the procedures and methods adequate and penetrating;

c) that the necessary generalizations have already been made and verified middle-range and general theories have been constituted so that their statements can be relied upon with appropriate confidence;

d) that such research has at its disposal a sufficient number of high-quality researchers, sufficient and adequate resources, and that it is realized in favorable general social conditions.

Only in exceptional cases of special giftedness, intuition, inspiration, and concentration of quality knowledge is it possible for a researcher (or researchers) to build a scientific law or a scientific explanation with just one research study.

Because of all this, this scientific goal can be considered achieved even when the research has made a serious step towards the formation of a scientific law, or a scientific explanation, that is, when essential cause-and-effect relationships and certain regularities have been truly known.

Therefore, scientific explanation cannot be set as a scientific goal for every research subject. Our conviction is that this is possible only for:

a) relatively complete subjects,

b) relatively complex and comprehensive projects, and

c) in relation to which the lower scientific goals (scientific description, classification and typologization, discovery) have already been achieved.

Scientific prognosis as a scientific goal sets the requirement that scientific research relatively reliably predict the development, movement, disappearance, or emergence of certain social phenomena or some of their qualitative or quantitative properties. Social predictions are very common even without scientific research, and even more common without prognostic scientific research. What's more, it is not rare for diagnostic descriptive-classificatory-typological quantitative research to serve as the basis for a prognosis. No matter how valid that research may be otherwise, it is not prognostic because the future is predicted intuitively, keeping in mind the results of the mentioned research.

Scientific prognosis requires: a) the existence of scientific laws and scientific explanations in the field of the social phenomenon whose perspective is being researched; b) the discovery of relevant tendencies and their orientations; c) the formation of a dynamic model-a model of the changes of the essential factors of the phenomenon-the tendencies; d) the cognition of the essential relationships of the tendencies. It is obvious that the subject of the research must be the tendencies. However, an essential problem in the successful achievement of this goal lies in the requirement to find relatively reliable measures for evaluating the tendencies. In the social sciences, prognostic research is most often, and it seems relatively successfully, conducted in the economic sciences. This research is conducted through quantitative studies based on a relatively small number of factors, while in social, including economic, phenomena, many factors are at play. Hence, prognostic research that needs to predict events in the short term is more reliable. It must be said that due to the relatively low development of prognostic research methods, objective prognostic social research has limited reliability. However, research whose orientation is on certain near-term events, and which are less complex (e.g., elections, demand for certain products, and the like), if conducted correctly and with the application of mathematical-statistical methods, can be very reliable.

We spoke about the basic characteristics of the process of prognostic research within the exposition on empirical research. Here we only re-emphasize that scientific prognostic research is fundamentally based on the principle that everything new arises within the real old, that every change is a certain modification of the properties of the old or its replacement. Certain manifested signs as forms of differences in relation to the existing are manifestations of tendencies.

2) Social Goals of Research

In the previous exposition, we pointed out the following possible situations regarding the relationship between the social and scientific significance of a research problem and of the research as a whole: the problem is socially very significant, but does not have to be scientifically significant; the problem is not socially significant at a given moment, but is scientifically extremely significant; the problem is both socially and scientifically significant; and finally, the problem is neither socially nor scientifically significant. Neither the scientific nor the social goals are determined by the scientific and social significance, simply because there are social groups and organizations whose interest in knowledge is not identical with the general scientific and broader social interest. This is the reason why there does not have to be even an approximate correspondence between the scientific and social goals of the research.

Social goals are not codified and classified, although they do foresee and obligate the research to provide, with its results, a certain purposefulness and social, non-scientific usability, regardless of their contribution to science.

Generally formulated social goals of research can be:

a) the scientific research should provide reliable scientific knowledge, the use of which society, or specific social actors, will decide upon by their own choice;

b) they set a requirement for results that are a basis for approaching the resolution of a social problem;

c) they set a requirement for results that suggest or propose solutions to specific problems;

d) they set a requirement for results that are directly and operationally involved in solving a social problem.

The most common research studies, whose results are operationally involved in solving a problem, are those that have social significance for a local actor or a local organization and the like, and whose scientific goal is a scientific prognosis. For example, it does not have to be of general social significance how to successfully sell detergent AB on the market, but such research is scientific-prognostic, and the social goal will be for the results to be a direct factor in an operational action. The situation is similar with the research of articles within the politics section of newspaper "X". The purpose of that research may be to improve the sales of that newspaper (which may be of minor local significance) for commercial reasons. This is typical for most action research.

However, one regularity is noticeable: the greater the scientific significance of the research, the more its potential social significance grows, and thus a tendency for the level of the research goals to rise is manifested.

Also, there is an evident regularity that initial fundamental research has description and classification as its scientific goal, and as its social goal, to provide a scientific basis and a social attitude towards that knowledge.

It is evident that social goals perform the following functions: informative, affirmative, initiative-driving, directive, and operational-actional.

The research goals as a whole determine the level and character of the hypotheses.

2.5. Hypotheses and Indicators

1) Hypotheses

Hypotheses are well-founded assumptions about the research subject expressed in the form of propositions-judgments. If hypotheses are truly well-founded assumptions and if they have a certain cognitive value, they have the form of judgments; if they have only a postulated cognitive value, their form is that of propositions. In a properly made research project and a scientifically created blueprint of the scientific concept, hypotheses are truly scientifically founded assumptions about the research subject and have the form of judgments (simple, single, or mutually connected, compound, multiple) because their content is based directly on the research subject and indirectly on the formulation of the problem, i.e., on its basic hypothetical propositions. The level and orientation of the hypotheses are based on the requirements of the research goals-primarily the scientific ones. Therefore, in a research project, hypotheses are derived from the subject, goals, and problem formulation, and form a system that is correlative, reciprocal, and proportional to the subject and goals of the research. The presented relationship of the hypotheses (the system of hypotheses) to the previous parts of the project arises from the fact that the operational definition of the subject communicates all the essential variables, and the hypotheses consist of variables and the propositions of the hypotheses which express the relationships between the variables.

We had to point out the relationship between hypotheses and the preceding parts of the project because in methodological literature, one encounters various views on the place and role of hypotheses, and no distinction is made between hypotheses in the process of cognition in general and hypotheses in a scientific research project.[16)]

Bacon launched the standpoint that the hypothesis is at the beginning of the cognitive process. Without entering into a deeper analysis of the reasons for and the foundation of this relatively widely accepted view, we must dispute its validity for hypotheses in a research project. The arguments are: a) hypotheses are well-founded propositions-judgments, not arbitrary postulates. Their basis is existing, usable knowledge; b) hypotheses are not "empty" propositions, but are subject-related. This practically means that the content of these propositions refers to the existence, state, etc., of the subject about which one wants to acquire true knowledge; c) the source of hypotheses is previous knowledge and the gaps, shortcomings, or voids in it, or discovered possibilities-which is arrived at through theoretical or empirical research or some other process of cognition.

If a hypothesis is an assumption, and a well-founded one, then there must be some knowledge about it-that which is its basis. That is why a prior definition of the problem and subject of research is necessary in the research project; that is, it is necessary that we know what we are researching and, based on what is known, we discover what we know, what we partially know, and what we do not know or do not know enough.

In the shortest terms, hypotheses are always assumptions about something, and they cannot be formed about nothing.

Therefore, generally speaking, hypotheses are preceded by knowledge (even if just a perception of which there is an awareness) about which one thinks, and so the hypothesis appears as a result of thinking about that known something.

In scientific research that requires the creation of a research project, neither conceptualization nor the design of the research begins with the formulation of hypotheses, but with the ascertainment of a problem. Among sociological researchers who have dealt with the problems of methodology, the standpoint has even appeared that we "research the problem, not the phenomenon." Therefore, the content of the hypotheses would be the problem! However, this attractive slogan by M. Popović is nevertheless not correct, simply because a problem is also a social phenomenon and it is just a web of various phenomena in specific relationships that cause social unease. We still research specific phenomena (or a phenomenon), that is, that part, aspect, etc., of them which we have formulated as the research subject, and the content of the hypotheses (the variables and the proposition of the hypothesis) relate to the research subject.[17)]

There are various hypotheses, and they are classified according to various criteria, the most common of which are: 1) the subject; 2) the logical nature; 3) the generality; and 4) the cognitive role of the hypotheses.

By subject, understood in a general sense, we distinguish between: a) theoretical hypotheses, which relate to theoretical subjects and are most often formulated in theoretical research. However, some empirical research can also end with the posing of new hypotheses, and they can be, and often are, theoretical; b) empirical hypotheses, whose content relates to social reality and which most often appear in empirical research; c) illusory hypotheses, whose content does not relate to the subjects of social reality and which are wrong, dysfunctional, because they cannot be tested. In scientifically designed research projects of a secular orientation with a properly treated problem and subject of research, the appearance of illusory hypotheses is not probable, although a wrong or a null hypothesis is possible.

Within the criterion of the subject of the hypothesis, we also find a criterion (sub-criterion) that forms a dichotomy: a) qualitative hypotheses-whose content is the quality of the phenomenon-its structure or composition, its properties, relations and connections, actions, etc.; b) quantitative hypotheses-whose contents are quantities-sizes, volumes, masses, durations, frequencies, sequences, etc., expressed either verbally (earlier, larger, heavier, longer, more frequent) or numerically; c) mixed qualitative-quantitative hypotheses, which can be considered very common. This classification does not free us from the obligation to always keep in mind that every quantity is only some amount-a dimension of some quality.[18)]

The criterion of the "*logical nature of hypotheses*" also contains two sub-criteria. The first expresses the logical process of the emergence of hypotheses, and according to it we distinguish: a) simple-implicational; b) inductive; c) deductive; and d) statistical-which do not have to be exclusively quantitative. The second sub-criterion is the modality of the judgments by which the hypotheses are expressed, and accordingly we have: a) possible; b) probable; and c) random. For hypotheses in a research project, implicational and probable hypotheses are primarily characteristic.

The third criterion, generality, also contains two sub-criteria. The first is the *scope of the matter*, and within it: a) general hypotheses and, as their specific form, universal hypotheses; b) special hypotheses, whose content is already covered by a general universal hypothesis, but which is specified and concretized by the special hypothesis as a proposition about a segmental factor (or factors) of the subject; c) individual hypotheses, whose content relates to the elementary factors of the research subject. These are the most concrete hypotheses, and through them, a direct link is established between the variables and the propositions of the hypotheses on the one hand, and the indicators on the other.

The second sub-criterion requires distinguishing the *generality of the validity* of the hypotheses and distinguishes: a) hypotheses of empirical uniformity; b) hypotheses of statistical generalization; c) hypotheses of rational analytical variables. All three types of hypotheses, and in some research all three types simultaneously, are encountered in the same research, especially in empirical research.

The cognitive role, as a criterion of classification, also contains two sub-criteria. The first is the function in the research activity, according to which hypotheses appear as: a) ad hoc; b) working-which are typical for research projects; c) auxiliary; d) elaborating; and e) scientific hypotheses (which are formulated as a result of scientific research, that is, as "post-hypotheses").[19)]

Auxiliary and elaborating hypotheses are just outdated terms for special and individual hypotheses in a research project.

The second sub-criterion is the *scientific goals of the research*, and according to them we have: a) descriptive; b) classificatory; c) heuristic; d) explicative (causal); and e) prognostic.

In all types of properly created research projects, hypotheses of various levels of generality inevitably appear, in relation to each other and with their own special functions. The general rule is that for each level of generality of the operational definition of the subject, one or more hypotheses are posited or derived, depending on the properties of the operational definition of the subject and their degree of elaboration.

First, a general, or universal, hypothesis is posited-or derived-which must relate to the entirety of the research subject and express a general proposition about the unknown or scientifically unverified features and factors of the research subject. This is a rule that applies to simple, intradisciplinary research, which is the most common type, that is, for projects and blueprints of the scientific concept of simple research. For complex projects and projects of interdisciplinary research, specific rules apply.

In a simple research project, one general hypothesis must be posited-or derived-which is the starting point and the basis for deriving hypotheses of a lower level of generality.

In our exposition so far, we have used the terms: "positing hypotheses" and "deriving hypotheses". From now on, we will use the expression "deriving hypotheses". The reason for this is that hypotheses are truly derived from two sources contained in the research project: a) from the formulation of the problem, the subject (especially), and the goals of the research; b) hypotheses of a lower degree of generality are derived from hypotheses of a higher degree of generality. If they were arbitrary intellectual creations, the term "positing" could justifiably be used.

From the segmental parts of the operational definition of the research subject and the general hypothesis, special hypotheses are derived. Their content expresses a special proposition (or propositions) about the content of a specific segment, which can be understood as a special, complete part of the operational subject of the research and the part of the general hypothesis that relates to that segment.

Special hypotheses are simultaneously a concretized, specialized part of the general hypothesis and a special, hypothetical proposition about a special segment of the operational definition of the subject.

Individual hypotheses are derived from the elementary factors of the operational definition of the subject and from the special hypotheses-those parts of them that relate to a specific elementary factor.

In this three-tiered system of hypotheses, the individual hypotheses are the most concrete. They are the direct link between the subject, the hypotheses, and the indicators.[20)]

There are two opposing standpoints on the number of hypotheses that should be derived. The first is that it is expedient to derive a small number of hypotheses about the most important characteristics of the problem-subject. The second standpoint opts for the greatest possible concretization of the subject and the hypotheses for the sake of easier and more successful establishment of the relationship with the indicators.

Our standpoint is that it is useful to form a three-tiered system of hypotheses, and the number of hypotheses should depend on the degree of elaboration of the operational definition of the subject.

The scientific goals of the research project determine the levels of the hypotheses-that is, their cognitive role. Namely, if the scientific goal of the research is scientific explication, the content of the hypotheses must relate to cause-and-effect relationships, scientific laws, and scientific explanations.

Understandings of the null hypothesis can be incongruent.[21)] M. Vujević cites an example of a null hypothesis as a general one, which asserts: "workers do not differ with regard to their inclusion in the delegate system from other categories of citizens."

Dž. Termiz and S. Milosavljević, p. 373 (and likewise S. Milosavljević and I. Radosavljević, p. 445) say: "The question of the so-called hypothesis of zero uncertainty remains open.

When establishing the system of hypotheses in the blueprint of the scientific concept, the hypothesis of zero uncertainty does not appear, because it is not a true hypothesis that needs to be tested, but a proposition that is, on a given occasion, considered to be true. Therefore, the so-called null hypothesis in this sense can sooner be considered an analytical instrument… The blueprint of the scientific concept contains only hypotheses that are subject to verification."

Some methodologists do not cover hypotheses at all, nor do they see them in the practice of research. For example, Jack D. Fitzgerald - Steven M. Fox in "Research Methodology in the Criminal Justice Sciences", Faculty of Criminalistic Sciences, Sarajevo, 2001, pp. 36, 37, and 38, do not mention hypotheses at all but immediately proceed from "identifying the units of analysis" and from "defining concepts" to an exposition on variables.

This opens at least two questions: (1) what is the real function of hypotheses?; (2) can the general hypothesis be "null"-that is, not subject to verification because it contains no uncertainty?

The basic characteristics of hypotheses in a research project are: a) verifiability, which implies that they are suitable for proof and confirmation, as well as for refutation. The standpoint that hypotheses in social research can only be confirmed but not proven is incorrect. Namely, there are social phenomena that can indeed be proven with factual data; b) probability-they must be probable to a certain degree, and not just possible; c) scientifically known; d) adequate and proportional.

The statement of the hypothesis must also have certain properties, namely: a) the statement must be meaningful and contain-express-a proposition, judgment, etc., about the research subject or only about one of its parts; b) it must be concretely subject-related and strictly defined; c) the statement must be clear and precise, and the concepts and terms used must be unambiguous in the given context; d) the statement must be properly dimensioned. The proposition of the hypothesis must also correspond to certain norms that prescribe that it be: a) scientifically-cognitively significant; b) scientifically-problematic; c) logically non-contradictory within the theory to which it belongs and in the theoretical model of the project, that is, the blueprint of the scientific concept; d) that it expresses differences, oppositions, and contradictions within the model of the blueprint of the scientific concept; e) expressed in the language characteristic of the respective science-scientific discipline.

The general scientific functions of a hypothesis can be reduced to three: a) filling the gaps in existing scientific knowledge; b) overcoming and removing contradictions within and between individual parts and factors of scientific knowledge; c) achieving a higher level of scientific knowledge.

At the end of the exposition on hypotheses, let us also mention the procedure for deriving hypotheses. S. Milosavljević and I. Radosavljević (in the book "*Fundamentals of the Methodology of Political Sciences*", p. 449) say about this: "1) it is determined what, in relation to a specific subject-a factor of the subject-has remained uncovered by scientific knowledge or what has not yet been verified; 2) from existing scientific knowledge, from those parts that form a theoretical whole, the necessary propositions are deduced; starting from partial, individual knowledge, they are induced; 3) on that basis, the variables of the concepts-propositions are selected, subject-related constants are assigned to them, subject-related statements are formed and are interconnected by logical propositional functions." This process is described in the same way by Dževad Termiz-Slavomir Milosavljević in the book "*Introduction to the Methodology of Politicology*", p. 377.

2) Variables and Indicators

A) Variables

Logical variables (variables of concepts and variables of propositions) were the subject of the exposition in the first part of this work. However, the variables of concepts and propositions are not just logical and theoretical constructions, but are statements, concepts, and understandings of the variability of the social realities to which they refer. Hypotheses are well-founded assumptions about the research subject in the project-in the blueprint of the scientific concept, and the subject, in scientific projects, always relates to the social realities that constitute it, or that it is probable that they constituted it in the past, or it is probable or possible that they will constitute it in the future. Therefore, verifiable hypotheses must always have a specific structure consisting of at least one independent and one dependent variable and a certain relationship between them which is expressed as the proposition of the hypothesis. In the practice of research, we can have various forms of relationships. Most often, both variables, that is, all variables, are explicitly stated in the hypothesis (individual or simple), but there are situations in which one phenomenon is viewed as the cause, impetus, reason, etc., for several other phenomena, and so such a variable, once stated, is implied in all other hypotheses, while the variables that are the consequence are stated in all hypotheses. And vice versa. It can be considered that several homogeneous or heterogeneous phenomena cause the emergence, behavior, property, etc., of one phenomenon, and so the variables of the reasons are excluded in all hypotheses, while the once-mentioned consequence is implied in all hypotheses. Let us again refer to the previously used example. The readership of the politics section in newspaper "X" is a consequence of numerous properties of that section (untimeliness of the articles, lack of objectivity, insufficient diversity, etc., and vice versa). The political orientation of the newspaper (the newspaper belongs to a specific party) is the reason for the insufficient diversity, bias, terseness of the value system, small number of authors, etc., of the articles in the politics section of newspaper "X".

According to the *role of variables* in hypotheses, we distinguish between independent variables, which we denote with X, and dependent variables, which we denote with Y. The role of the independent variable-which as a rule stands at the beginning of the hypothesis (in European languages and scripts, "on the left")-is to show the cause, impetus, reason, etc., of the dependent variable and to describe it. The dependent variable shows the consequences of the action of the independent variable. However, in social research (and in social processes), the independent and dependent variables can switch places.

Besides the independent and dependent variables, variables in other roles can also appear in hypotheses: a) *antecedent or explanatory variables*, which explain the independent and dependent variables, that is, the correlation between them; b) *intervening or interpretive variables*, which explain the reasons for the existence of the relationship between the independent and dependent variables; and c) *co-indicative or specifying variables*, which express the intensity of the conditions of the relationship between the independent and dependent variables.

By *content*, we can also distinguish between a) *qualitative* and b) *quantitative variables*. It is clear that qualitative variables express the variable properties, forms, relationships, etc., of a phenomenon or a factor of a phenomenon, and that quantitative variables refer to the dimensions, quantities, frequency, and other quantitative determinations. In the same hypothesis, both qualitative and quantitative variables can perform various roles. Which variables will be included in the composition of the hypothesis depends on the operational and theoretical definition of the subject. For example, the readership of newspaper "X", its politics section, cannot be researched without quantifying concepts. The very expression "satisfactory readership" implies that of the possible readers, of which there are a) those who read newspaper "X" in total, b) possible readers. A quantitative variable does not have to be expressed exclusively numerically, but also verbally with "quantitative concepts and terms" such as: few-many, more-less, growth-decline, before-after, etc.

Although, at first glance, the understanding of variables is clearly and decisively presented and theoretically explained, differences in the understanding of the significance of certain types of variables are evident. M. Vujević, in the previously mentioned book on p. 66, says: "Dependent variables are always found in the research problem. It is actually the characteristic about which we are asking in the problem. If our research problem is: To what extent are workers included in the delegate system? - the dependent variable is inclusion in the delegate system. In this problem, we do not have an independent variable. ... An independent variable can also appear in the problem. Here is one such problem: To what extent does the informedness of citizens affect their inclusion in the delegate system. Inclusion in the delegate system is the dependent variable, and informedness is the independent variable"... "Dependent variables are usually the criterion based on which we make the decision from which scientific areas we will begin to research. However, this can also be the independent variables."

The slight indication of the greater significance of the dependent variable(s) for the research points to an approach to the research and the problem as a whole. Namely, the problem is social and scientific, and it is defined as a situation that causes social unease-which requires an appropriate solution. Therefore, the problem is always a specific social, more or less specified situation, and is variable itself. It appears as a consequence of certain causes-and as a cause of certain consequences. The solution is action through a specific activity and means in the direction of removing the social unease. Therefore, the problem is both an independent and a dependent variable, that is, it always contains both a dependent and an independent variable. When we formulate it as a research problem, we opt for certain characteristics and dimensions of the problem, and not for the variables it contains, nor on the basis of them. For us, these "variables" are equal at the beginning. Only when we define ourselves through the subject and goals of the research and when we approach the derivation and formulation of the hypotheses, do we discover which variables will be included and in what role.

In a way, Vujević himself says this on the same page: "However, independent variables appear in the goals of the research and in the hypotheses. An independent variable can also appear in the problem..."

Vujević's standpoint that "variables are extracted from hypotheses and are classified on the basis of hypotheses" (p. 67) is also interesting. This standpoint is probably more a slip of the tongue in the statement than an error in thinking because it implies the view that hypotheses exist ("are posited") before variables. But the question arises: if variables are integral structural factors of hypotheses-whose relationship is the proposition of the hypothesis, how did the hypotheses that precede the variables come into being? We must again point out that a researcher cannot arbitrarily "posit" variables, but must derive them from the operational definition of the subject, with which the derivation of the hypotheses also begins-by identifying the variables and their relationship.

Hypotheses consist of at least two variables: variable X-the independent, and variable Y-the dependent variable, which the independent variable produces, influences, or they are in a relationship of interdependent influence. The question can justifiably be asked: what would be the cognitive basis for the variables, their mutual relationship, etc., if we were to begin the research with a hypothesis (or hypotheses)? Even an inquiry can be considered a hypothesis, although a working hypothesis is usually considered an affirmative or negating statement or a statement of doubt about one phenomenon which is the product of the relationship of two (or more) micro-phenomena. Besides the basic model of the relationship in the structure of hypotheses, in the practice of research, when forming the hypothetical system-deriving hypotheses from the operational definition of the research subject, other forms of variable relationships are also possible: one phenomenon is viewed as the cause, impetus, reason, etc., of several other phenomena, and so such a variable, once stated, is implied in all other hypotheses, while the variables that are the consequence are stated in all other hypotheses. And vice versa. However, the basic form of the relationship is the dominant, and most common, model of the basic structure of a hypothesis in which both the independent and dependent variables are stated, connected by the proposition of the hypothesis which expresses the relationship between them.

It is justified to ask about the functions of variables. Two functions are evident: participation in the structure of the hypothesis and its proposition, and a direct connection with the indicators. Their ability to be quantitative, and to appear as unipolar or bipolar (for the values to range from 0 upwards or to range from a neutral point upwards and downwards) also provides them with a significant function in measurement.

B) Indicators

In a research project, indicators are manifestations of a phenomenon, direct or indirect, which can be recorded and recognized by the senses and through which true and verifiable knowledge about that phenomenon can be acquired.[22)] This definition is true within the rules of secular science, which implies intersubjective verification. Intersubjective verification further implies the possibility for multiple different subjects to simultaneously, under the same conditions and in the same way, ascertain the existence of the manifestation, its properties, and its meaning. If the ascertainments of multiple subjects express agreement, it means that the manifestation has been confirmed as a valid indicator. Only phenomena that manifest themselves in some way through something can be researched, because in reality, only the manifestation itself allows for intersubjective verification.

The definition of an indicator with which we began this exposition, however correct it may be, is not sufficient, nor is it generally accepted. To that definition, it should be added that indicators in a scientific research project are not just any manifestations, but only those that relate to the structure of the hypothesis-primarily to its proposition-and in a meaning that corresponds to the conceptual-terminological and meaning system. The reason for this is that the very same manifestation of a phenomenon in different situations, in different research projects, at different times, and in different places can have different meanings-especially for different social actors. In order for indicators to truly be indicators, they must be clearly defined and the realities to which certain concepts refer must be described-i.e., the realities that are shown and by which they are shown. An indicator indicates what has been shown through manifestation. In connection with our previously mentioned examples, it might look like this: Newspaper "Y", in its politics section over the course of seven days, writes five times about one political incident, conflict, position, or act. Is this an indicator? Of course, it is a simple quantitative indicator of the frequency of certain topics in the articles. But is it also an indicator of the impartiality-or bias-of the section in question, or of its consistency, adherence to principles, etc.? No, by itself, that fact is not a valid indicator for that, although it is a significant component of an indicator. In order to form a valid indicator for bias-or impartiality, it is necessary to add indicators for the orientation of the articles, the positions that were expressed, the authors of the positions, the sources of information, the evaluation, etc. Therefore, there is no possibility of forming a single simple indicator; rather, a syndromic, complex indicator is needed. Furthermore, it is obvious that the indicator relates to the proposition of the hypothesis. Even if we accept the view of M. Vujević (p. 70) that "hypotheses (are) our opinion about the characteristic of one variable or an opinion about the relationship between two variables," the fact that indicators relate to the proposition of the hypothesis cannot be avoided. Hence, the view that "parts of objective reality that relate to the concept of the variable we want to operationalize are called an indicator" can hardly be accepted. Indicators cannot be considered the "operationalization of the concept of a variable." In fact, indicators are direct or also indirect indicators of the propositions of hypotheses.

Indicators do not have the same value, and their value is determined for each project, and even for each hypothesis (in exceptional cases). However, one and the same imperative applies to all indicators: they must be valid! That is why the validity of indicators is checked.

M. Vujević lists four ways of determining their validity (pp. 71/72):

a) *a priori validation*-which does not imply a special procedure, but can be linked to the procedure of creating the indicator;

b) *logical validation* is "a procedure by which we find indicators based on the definition of the variable we want to operationalize";

c) *validation by jury opinion;*

d) *validation of indicators using known groups.*

Each of the mentioned procedures has a certain value and shortcomings. Based on scientific-research experience and direct consultations with very experienced and widely recognized scientific researchers and methodologists in the field of the social sciences, we are free to recommend two productive procedures for the validation of indicators. The first is the strict application of the procedure of conceptualization and creation of the research project, and especially the creation of the theoretical and operational subject of research and the derivation of hypotheses. The second is the strict implementation of the testing of the research project (pre-research) and the analysis and evaluation of the results obtained by it. This also implies the application of reconceptualization procedures.

The characteristics of valid indicators are: a) objectivity; b) reliability; c) unambiguity; d) precision; and e) representativeness. It is undisputed that these characteristics are arrived at in all the aforementioned ways, and that it is also possible (and recommended under certain conditions) through a special investigation of the indicators.

There are several types of indicators, and the following dichotomies and classifications are common:

a) by the criterion of *content-indicators of variables and indicators of the proposition of the hypothesis;*

b) by the criterion of *validity*: *usable and unusable, that is, relevant and irrelevant indicators;*

c) by the criterion of *origin*: *expressive* (indicators of attitudes) and *predictive* (indicators of real dimensions-properties). Within this criterion, we also have *objective* indicators (which are objective real facts that can be experientially, sensory-empirically ascertained) and subjective indicators (which are the judgment of a subject, their experience, feelings, and sensations);

d) by the criterion of *complexity-elementary* (simple) and *syndromic* (complex, simple indicators connected into a meaningful whole).

These are only the basic types or basic classifications. We note that in syndromic indicators, a connection of objective and subjective, or heterogeneous, indicators can occur.

It is necessary and possible to distinguish between *contemporary-current indicators* and *projective-prognostic* ones, which speak of the existing state at the moment of its cognition, and are thus relatively static. Their properties impose two major questions: the first question is that of their foundation, and thus their validity. To put it simply, if we do not know the essence, how do we know if it is manifested precisely by that indicator?

Namely, are the indicators listed (given) with the individual hypotheses: a) only hypothetical, or are they b) proven or confirmed (possible, probable, certain, necessary)? And the second question: how do we know that the respective indicators relate to the current essence if we have not scientifically identified the current phenomena and scientifically verified our knowledge about them? If we are just now researching a certain phenomenon and acquiring scientific knowledge about it, how do we know that through these indicators we will acquire true knowledge about the research subject, which implies the question: are we simultaneously researching the indicators along with the research of the subject (concretized by hypotheses)?

With the term projective indicators, we denote those manifestations in the processes of social (but also other) movements and developments, which by their appearance point to possible or probable, and in some cases certain and necessary, states that may arise in the distant future or are already arising in the near or very near future in various areas of the existence and development of society. These are indicators of the emergence and development of tendencies of the phenomena of social reality that are the subject of empirical research and are at the foundation of building a scientific prognosis. Namely, such indicators are diverse manifestations, they are an integral part of man and society, including nature, and we are in daily contact with them as indicators of danger or of undesirable or very desirable states.

In this sense, the most illustrative example is weather, hydrological, and similar forecasts, which are formed on the basis of natural movements and significantly affect the lives of people and social situations.

Projective-prognostic indicators can be divided into:

a) *indicators of the past*;

b) *indicators of the present*, and

c) *indicators of the future*.

There are indicators that something happened in the past, and that which happened:

a) is finished, and unless it is historical knowledge, has no direct or more direct influence on the present and the future, and

b) what happened and what was happening in the distant or near past can or is likely to be repeated in some form in the contemporary or future period with a smaller or larger influence on its properties and features. Unfortunately, these indicators are not the subject of sufficient attention and study in the contemporary social sciences, although in some natural sciences they have exceptional importance (for example, in seismology and meteorology).

Speaking of indicators of the past, it is necessary to point out two essential points:

(1) history, true and impartial, gives us insight into indicators of the past that can serve us as indicators of the future, provided that they are treated in an appropriate manner;

(2) history speaks of the origin of tradition-its properties, continuities and discontinuities, its functions and role, which is a significant basis for insight into the indicators of the past, which, through the role of preserving and realizing tradition, also appear as indicators of the present and the future.

Indicators of the past, as presented here, are of a theoretical and empirical character simultaneously. As direct indicators of the past (remains of material, intellectual, and spiritual creations) they are empirical. But as segments of the science of history, as descriptions and interpretations of the past, they are theoretical, and their connection and relationship with the present are methodological and meta-methodological. Therefore, the ascertainment, interpretation, and use of tradition by applying indicators of the past and present transforms into projective indicators-especially in the fields of political and economic sciences, and especially-even more so in some mentioned areas of the natural sciences.

Let us recall: the hypotheses in a research project are working hypotheses. They necessarily study qualities, and they can, and it is desirable that they do, also study quantities, especially when measurement is included in the research. That is why we must also speak of qualitative and quantitative indicators. Therefore, indicators can be classified in various ways, but it seems that for researchers, it is essential to distinguish valid from invalid-unreliable-quasi-indicators, and direct from indirect indicators. This is a particularly sensitive and significant issue in the scientific research of social phenomena, but also in psychology and social psychology, because many of them do not manifest directly, but through the medium of other phenomena and their manifestations, in which case we must necessarily use a multitude of complex and indirect indicators.

That is also one of the main problems in discovering and ascertaining the existence or non-existence of a specific indicator and determining its content and identifying its meaning. One of the serious problems in the choice of indicators is the fact that the same indicator can be an indicator for multiple phenomena and vice versa. Therefore, the choice and definition of indicators is a very responsible job which requires special theoretical research during the design of the research.

Therefore, the indicators in a research project are simultaneously the result of theoretical research by which the implementation research project and the (empirical) pre-research are arrived at, and they remain the subject of research throughout the entire time of building and collecting data and through the procedure of their processing. Corrections to their meaning are constantly possible and ongoing. They are a constant process of realizing the connection between reality (we treat manifestation as a reality of the social world), the concept, and the term, considering it to be dynamic.

Starting from the basic *types of research* (theoretical and empirical), it is necessary to also point out the *indicators of theoretical and empirical research*, which differ in richness and in properties. The theoretical definition does not operate directly with indicators, and so the indicators of theoretical research are concepts and statements in oral, written, or some other form.

Theoretical research has the essential properties of a process of discovery, definition and redefinition, and especially, of proof and refutation, in which the basic-essential indicator is the expressed concept, i.e., statements about concepts. And the lowest, or more precisely and accurately, the simplest and most fundamental form of a concept as an indicator is data.

In methodological, and especially in scientific, literature, the concepts of data, information (a message), and indicator are often confused. The actual relationship is as follows: an indicator is a manifestation, an expression of a certain phenomenon. But, as we have already pointed out, an indicator is also the absence, the non-existence of a manifestation of a certain phenomenon as a whole (if there are no other manifestations either).

However, the indicator itself is a phenomenon that has its own form, content, place in the system of the research project, its own dimensions, relations, and possible meanings.

Therefore, a certain phenomenon-a manifestation of another phenomenon, of its essence-when it satisfies all the preceding requirements, is an indicator. To be one, a constant connection of a certain quality and quantity (a cause-and-effect relationship is most desirable) and a defined meaning must be proven or at least probable. Like any other phenomenon, an indicator also has its own properties, and thus with its properties, dimensions, etc., it can be an indicator for various other phenomena. A certain manifestation is an indicator of a certain phenomenon only when it has been articulated by the research project or by practice. But it is not data in itself.

Data is meaningful, partial knowledge about the essential characteristics of an indicator-from its existence to the factual manifestation of its properties. Thus, one indicator may be absent, because it is not there, but other manifestations may show the existence and characteristics of the phenomenon. Besides, not all manifestations are of the same importance: essential manifestations and essential indicators and the data about them are what is important.

Information, a message about a phenomenon, about its essence, is only a systematic, meaningful, and functional set of organized data about essential indicators which provide knowledge about the phenomenon-its parts, aspects, properties, etc., or about the phenomenon as a whole. Only then does that information allow for well-founded conclusions on the basis of "data, indicators, etc.," or more accurately, on the basis of the research results. Therefore, one cannot draw conclusions directly on the basis of data about indicators; rather, appropriate scientific-research information-messages must be formed on the basis of which one can draw conclusions about the phenomenon-the essence of the phenomenon. This is possible only on the basis of the stage-by-stage results of the research.

An indicator can be a statement of a certain content, form, truthfulness, etc., which needs to be determined in each specific situation. A statement-as-a-legal-norm is one thing, while a statement in factual behavior, about a belief, about expectations, about desires, about intentions, etc., is something else entirely.

An indicator can also be actual behavior, an action, an act, but all of this can be conscious, goal-oriented, purposeful, but also instinctual, spontaneous, under pressure, just as it can be imitative.

Indicators can also be natural manifestations placed in the context of social events, and they can also be diverse products of people.

We can state that it is not possible to create a list of all possible indicators of social reality, but it is possible, as meta-methodology points out (Termiz, 2016):

a) to establish and develop the theoretical and meta-theoretical foundations and methodological orientations for the creation of indicators, which are themselves to a large extent a theoretical-methodological creation;

b) it is possible to create a list of the most commonly used indicators in certain types of research, as well as in the research of certain problems and subjects, and to critically review them in the process.

In this way, it would be possible to successfully approach the building of a theory of indicators, both as a methodological and a meta-methodological one.

The choice of indicators is conditioned primarily by the need for true, adequate data that confirm-or-refute the hypothesis, as well as by:

1) the properties of the subject and the goals of the research;

2) the properties of the proposition of the hypothesis and the variables;

3) previous scientific knowledge about the research subject.

Indicators are the link between the proposition of the hypotheses on the one hand, and the set of instruments by which data will be collected, on the other. Although indicators are separate and distinct from the hypothesis(es), in a scientific research project, they are considered an integral part of the individual hypotheses. And the indicators (in addition to the subject and goals of the research-the type of research-the scientific-disciplinary definition of the research) most directly determine the choice and use of specific research methods and techniques.

2.6. The Manner of Research in the Scientific Research Project

The manner of research is a necessary component of the research project, which directly presents and decisively communicates the entire imagined concept and plan of the research.

The manner of research, as a separate part of the research project-of the blueprint of the scientific concept-is, by its basic content, considered part of a scientific document. Indeed, it contains the basic essential decisions about how we will research the previously defined subject of research, how we will achieve the scientific and social goals through the research, and how we will verify (confirm, prove, refute, or modify) the hypotheses and supplement the scientific fund of knowledge.

This part of the research project also has the characteristics of an operational document because it standardizes a multitude of procedures in the selection and definition of criteria and their application, in the actions to achieve functional relationships between methods, in the procedures for applying research techniques and instruments, the obligations for creating plans, etc.

There are three essential determinants for creating the content of this part of the blueprint of the scientific concept:

(1) the properties and structure of the subject, goals, and hypotheses of the research;

(2) scientific-research practice, and

(3) the level of development of methodological knowledge.

The first act in creating this part of the research project is determining:

(1) the title-name of the topic in its final version, and

(2) the approach to the research.

The approach to the research determines the starting points and the possibilities of using certain methods and techniques of research.

The work on creating the "manner of research" section can be started in one of two ways: 1) by stating which theoretical-methodological school the specific research belongs to; 2) by presenting the paradigm, that is, the basic paradigmatic propositions, which in fact determine the criteria for the selection and application of the concept of the methods for realizing the research.

Regardless of the usefulness of starting the creation of this part in one of the mentioned ways, they cannot be considered necessary and mandatory. Namely, the belonging to a school as well as the paradigmatic propositions have already been stated in the formulation of the problem (in the part about the results of previous research from which one starts), as well as in the theoretical definition of the research subject.

In the case of omitting the exposition on the theoretical-methodological school and the paradigm, the first part of the "manner of research" consists of an exposition on the basic methods that will be applied in the research in question. It is understandable that all basic methods of scientific knowledge must be applied in all phases and stages of the design, realization, and presentation of the research. However, some of these methods, especially analysis, classification, and also abstraction, are used emphatically in some parts of the research. For example, this is most often the case in the definition of the research subject and the hypotheses, but also in the process of data processing. These emphatically applied methods should be explicitly stated, and it should be specified in which parts of the research they will be applied and in connection with what. For example, it should be decisively stated which type of analysis will be applied and what it will analyze. If it is a matter of classification, it should be determined what will be classified and which criterion will be applied. For example, in the research of articles in the politics section of newspaper "X", the basic method is structural-functional analysis, and classification according to certain criteria must also be applied. This should be stated.

In every research, whether it is theoretical or empirical, at least one, but also several interconnected general scientific methods are applied. For empirical research, the application of the statistical general scientific method in conjunction with the modeling method and the hypothetico-deductive method is characteristic. For theoretical research, the analytical-deductive or axiomatic general scientific method may be more appropriate. The historical-comparative or comparative method is also considered a general scientific method in the social sciences. When the statistical method is cited, it must be stated what statistical population is being considered, whether it will be realized through a sample and what kind of sample, and which procedures of the statistical method will be applied, as well as with which statistical induction and tendencies one intends to operate.

If the application of the modeling method is cited, a clear decision must be made on the type, purpose, subject, and functions of the model, and it must be decisively stated whether a model experiment is being considered. The same procedure should be followed with the other methods. This also includes the eventual application of methods characteristic of certain methodological schools (such as the idiographic, ideal types, or biographical method).

Research cannot be realized without the application of certain methods for data collection and methods for data processing and presentation. Their presentation and classification are the subject of a later exposition. Here we will only say that it should be precisely stated which methods, techniques, and instruments will be applied, how, and in connection with what. The instruments and the instructions for their use are an integral part of the manner of research.

The plans for the realization of the research and, especially, the plans for the organization, control, and processing of data, the verification of hypotheses with qualitative and quantitative procedures, as well as the ways and forms of presentation, belong in this part of the project.

Outside of this part remain the organizational plans of the research (timeline, resource, and personnel plans), as well as the plan for the training (preparation) of field researchers.

However, the plan for the realization of the pre-research and eventual reconceptualization belongs in this part of the project.

2.7. Scientific and Social Justification of Research

This part of the research project communicates the prediction and the undertaken obligation for the research to contribute to science and the well-being of society with its results. The question is open as to whether the scientific and, especially, the social contribution can truly be realistically predicted. And can that contribution be operationalized and concretely expressed?

We emphasize that the scientific and social contribution cannot be equated with the scientific and social significance or with the assumed scientific and social goals, although there is a connection between them.

The scientific and social contribution is not realized only through the results of the research in the scientific-cognitive sphere or in the resolution of a social problem, but also through the very event of the research. Therefore, one can speak of a direct and an indirect contribution, of a current and a delayed contribution, of a momentary, short-term, and long-term-lasting contribution. Let us also note that the scientific and social contribution do not have to be proportional nor have similar properties, and it is justified to speak separately about the scientific and the social contribution, that is, justification.

Scientifically justified research is that which contributes to the deepening, broadening, reliability, and applicability of scientific knowledge about the subject or method of a science, that is, about the subject or methods of research-or about both. This is achieved by stimulating or achieving a verificatory or a heuristic result. It is possible for the same results to be achieved simultaneously in connection with the subject and with the method, just as it is possible for stimulation to be achieved in connection with one and a heuristic result in connection with the other, etc.

The social justification is assessed on the basis of the probable current and potential contribution of the event and the results of the research to the resolution of a social problem. For example, it is possible that the knowledge that a certain research is taking place contributes to the calming of a certain social tension because this can be understood as a serious and responsible approach to solving the problem; the results of the research can orient social action, etc. The social justification is in fact assessed by the commissioner, that is, the funder of the research-sometimes with objectivized, and sometimes with completely subjective criteria.

The scientific and social justification also has the characteristics of a scientific and a business document. It is presented at the end of the blueprint of the scientific concept as a scientific document because the probable contributions to science and social practice can be seen more clearly and specifically through the preceding treatment of the scientific-research problem.

2.8. Research Plans

The operational plans of the research, together with various instructions on behavior in the field, the selection and preparation of associates for work in the field, the scheduling of associates, and similar acts, belong to the part of the research project that makes it an operational document. All the mentioned and other acts are in the function of organizing the research. Let us recall that every research that requires field work, and all empirical research is of that kind-especially that which researches mass phenomena-is very complex, that it requires a high degree of organization and functionality, a valid material and personnel basis, and a lot of administrative-technical work. This is discussed in detail in the book "Practicum in the Methodology of Politicology"-by authors Dževad Termiz and Slavomir Milosavljević, Sarajevo, 2018, on pp. 204-211. Here we will focus only on the basic plans whose creation began already during the creation of the project (research) task. It is common to speak of three plans: a) the timeline plan, b) the personnel plan, and c) the resource plan. These three plans form a whole, and they provide the necessary functional basis for the research.

The *timeline plan* is the most complex and requires a good knowledge of the research process and norms. It determines:

(1) the start date and the end date of the research;

(2) the duration of each individual period-stage and phase of the research-in days, working hours, and by dates;

(3) the time and duration of the engagement of groups of associates and individual associates (period, days, hours, and dates) on specific jobs and tasks. Several problems arise here, and the main ones are the synchronization of jobs, tasks, and the work of associates of a certain profile so as to achieve a "high density of effective time";

(4) the coordinated timing of securing resources and executing jobs and tasks.

Therefore, the timeline plan contains a list of all jobs and tasks-scientific-research, research-field, technical, and administrative-connected with a list of all executors of the jobs and tasks of various professional and work profiles and the necessary resources for executing the tasks in a specific space and time.

The creation of the plan is approached by analyzing the requirements of the hypotheses and even more concretely, the manner of research-the methods, techniques-instruments and procedures in the collection, processing, and presentation of data on a specific sample or census. The application of any instrument and research procedure requires: the time needed to reach the source of data, to make contact with it; to apply the foreseen procedures and instruments and to record the data, to end the contact with the source of data in an appropriate manner and move away from it, but to preserve the possibility of re-contacting, etc. The required time is not the same for all associates, nor are all sources the same. For this reason, the average required time is standardized, and for each source, a reserve time-in the amount of about 10%-is set. The results of the pre-research and the check of the work fitness of the associates after the training has been completed are taken as the basis for calculating the average required time.

The *personnel plan* is also derived from the provisions of the manner of research and from the timeline plan.

The provisions of the manner of research, but also the subject of the research, require certain psychological and physical abilities, a type and level of education, and certain character traits appropriate for the jobs and tasks. A standard requirement is that in every project of empirical research of a mass phenomenon, the research team consists of at least: 1) a scientific-research core, which designs the research and manages its realization, processing, and presentation, and plans and conceives the entire process. This team consists of: a) the research leader, b) a methodologist, c) a statistician-programmer, and one or more scientific associates specialized in certain areas. In certain cases, it is possible for the same person to perform multiple roles (e.g., leader and methodologist, or methodologist and statistician, etc.); 2) field researchers; and 3) administrative-organizational and administrative-technical staff. For the jobs and tasks of the second and third types, in addition to already acquired knowledge, special knowledge and fitness appropriate for the specific research project are necessary. This is provided through special training.

The personnel plan determines specifically how many people, with which psychophysical and characteristic traits, and of which type and level of knowledge and skills, are needed in which period of time and for what duration. It is advisable to add a necessary reserve to this.[23)]

On that basis, it is determined how many and what kind of persons will be invited to collaborate, how many and what kind of persons will be included in additional training and preparation, how many and which ones will be subjected to testing, and how many and which ones will be engaged.

The entire process is much easier, cheaper, and simpler when an organized network of collaborators already exists.

A personnel list of potential and engaged candidates, by name, with a description of tasks and a record of personal data, is added as an appendix to the personnel plan.

The resource plan arises from the previous plans and from the record of current prices as well as their trends from the beginning to the end of the research. This plan actually consists of two parts: 1) the financial plan and 2) the material resources plan.

(1) The financial plan foresees-and states-the necessary sum of money for the realization of the project, the conduct of the research, and the presentation of the results, according to specific items. These items are:

1) sums of money needed for the payment of salaries, honorariums, and various work services (in gross and net amounts);

2) sums of money needed for the payment of transportation costs, per diems, and hotel or accommodation costs away from the place of residence;

3) sums of money needed for the payment of rent for space, equipment, and machinery;

4) sums of money needed for the procurement-purchase-of specific equipment and work materials, including paper;

5) sums of money needed for the payment of consumed energy sources;

6) sums of money for small unforeseen expenses and representation costs;

7) sums of money for the needs of presenting and distributing the research results, including the printing of reports, bulletins, brochures, books, the creation of audio and video materials, etc., as well as necessary meetings.

These are only the basic and largest financial items that can and should be supplemented and elaborated in accordance with the requirements of regulations.

(2) The material resources plan foresees the necessary objects and items of a material nature. The essential items of this plan are:

1) workspaces that meet essential conditions for work (square and cubic footage, working temperature, lighting, protection from noise, security, location and access, etc.);

2) technical equipment (computers, etc.);

3) means of transport;

4) means of communication and information, etc.

It is clear that for manual data recording, forms and pencils are necessary; for recording auditory and/or visual data, certain devices are needed; for organizing, processing, and analyzing data, a computer is needed, etc.[24)]

From the foregoing, it is clear that the operational organizational plans are closely linked with the manner of research and are therefore an integral, operational part of the research project. These plans are necessarily accompanied by certain instruments (documents) for recording their implementation, some of which are prescribed by regulations, while others are created and prescribed by the project leadership.

The fulfillment of every plan should be supported and guaranteed by valid, firm contracts that clearly specify the mutual obligations, the conditions for their fulfillment, the dynamics (deadlines) of fulfillment, and the sanctions for non-compliance with the contract, as well as the conditions and consequences of an eventual termination of the contract.[25)]

3. Models of Research Projects

Our exposition in the previous chapters of this part has referred primarily to the simple, intradisciplinary research project. In practice, this type of project is the most common, but it is not the only one. Our analysis of scientific-research and methodological practice reveals the existence of several types (models) of complex research. Here we will cover only two: a) the model of a complex research project with sub-projects, and b) the model of a complex research project with separate constituent projects. The specificities of complex research projects are expressed through the relationship between them and the process of conceptualization and reconceptualization, the structure of the project, and the procedure of their realization, as well as in the drawing of conclusions and the presentation of results.

3.1. Model of a Complex Project with Sub-projects

The basic principles of research design apply to all procedures for creating research projects. Regardless of what type of research and research project it will be, the work begins with conceptualization. In the first stage of conceptualization, already during the articulation of the problem, it is possible to discover that there is less scientific knowledge about one part of the problem than about others, that the significance of one factor or property far exceeds the significance of the others, that there are very large differences in the manifestation of the problem in a certain part of a space or in a certain period of time, etc. Each of the mentioned inconsistencies can be a reason to place special emphasis on a specific factor-a property of the problem, or to place emphasis on a specific space or time period. This initial requirement can be resolved in one of three ways: only by special emphasis on that specificity through certain statements in the subject, goals, and hypotheses; by creating a special sub-project that will be an integral part of the research project; or by a separate independent research study.

The work on the project research task, the creation of the conceptual outline (conceptual design), and the preliminary formulation of the topic will answer the question of which solution to resort to. Therefore, the first source of the need for a complex research project is the properties of the problem.

The second source is the requirement of the commissioner or the funder of the project that a certain aspect, property, etc., of the problem be specially researched.

The third source can be the research method that is most appropriate for the problem. If a phenomenon-problem is in its infancy and appears unevenly, but in a limited number of places at the same time, an adequate research method is the case study (of the "mosaic" or "series" type), which requires a research project with multiple sub-projects.

Research can be inter-, intra-, and multidisciplinary. During conceptualization, it may be discovered that the problem needs to be researched within two or more disciplines of the same science or two or more sciences. If the properties of the problem indicate that it belongs predominantly to one discipline, and that the others are ancillary, the need arises for a complex research study in which there is also a sub-project or sub-projects.

By pointing out the sources of the need for complex research, we have also pointed out two basic modalities of the model of a research project with sub-projects: 1) the modality of one project with one sub-project; 2) the modality of one project with multiple sub-projects.

The first modality is simpler and easier to create, but even in it, two variants must be distinguished: a) intradisciplinary and b) interdisciplinary.

The characteristic of the first modality is as follows:

First, a research project is formed as a single, simple one. The formulation of the problem and the definition of the subject, the goals, hypotheses, indicators, and the manner of research (including all methods) are determined uniformly. In this way, a basic, let's call it a "*general*" project, is created. This document has defined the mandatory framework whose provisions must be respected. It is also the starting point and, in that sense, determining.

Then, one proceeds to the analysis of the specificities, their ranking by significance and scope, and their concretization. First, the specificities-the deviations expressed in the formulation of the problem, in the basic hypothetical propositions-are ascertained. If no specificities are found that cannot be subsumed under the formulated propositions, it can be concluded that in the formulation of the problem, that is, in the problem itself, there are no essential grounds for forming a special sub-project. If there are, this is ascertained, dimensioned, and evaluated, and on that basis, it is concluded whether it is possible to accommodate and express the specificities through the definitions of the research subject, the goals, and the hypotheses; if these specificities are significant enough but not sufficiently numerous, extensive, and deep, this is resolved primarily through interventions in the theoretical and operational definition of the subject. This is, as a rule, resolved by expanding the subject and highlighting the specificities. The problems of time and space are resolved through the definitions of time and space, by accentuating them. Within the research goals, the goals can be specified if it is necessary, although the goals can often remain unchanged. The most explicit interventions are in the hypotheses-especially in the individual ones. Additions and expansions of the research subject lead to the addition of individual hypotheses that relate to the expansions in the subject. This is further reflected in the methods and techniques applied in the research.

If, through analysis, we come to the conclusion that the specificities are such that they sufficiently justify the formation of a sub-project, we form one. The simplest case is when it is enough to form only a special definition of the subject and hypotheses-whose content will be incorporated into the methods and techniques of the general project. In that case, common plans for organizing and processing data and for presenting the findings are possible. However, the procedure for verifying the hypotheses must be specified for those hypotheses that concern the specificities, and an adequate relationship must be established between the procedures for verifying the hypotheses of the project and the sub-project. And this, further, requires a corresponding procedure in drawing conclusions, which implies connecting the conclusions about the specific and the common. This is essentially the most complex and sensitive part in designing the research and during the research itself.

The most complex case is the establishment of a basic, general project within one scientific discipline, and a sub-project within another scientific discipline. No matter how related the scientific disciplines may be, the role of the sub-project and the procedure of its creation differ from the previous case. Here too, two situations can arise: in the first, the primary subject of cognition belongs to one discipline, and it is researched within the framework of the general, basic project. The subject of the sub-project belongs to another discipline, but it is secondary, ancillary, in the function of a better understanding and scientific cognition of the primary subject. Although this sub-project is established in its entirety and by applying the entire procedure of creating a research project (but not conceptualization), its content is conditioned by the general project. It must be in correlation and correspondent with the general project in all stages and phases of the research.

The second situation is when there is a balanced significance of the subjects of both disciplines. We cannot reliably answer whether one can still speak of a general project and sub-projects here. There are grounds to understand and resolve such a situation in the following way: the general project formulates all parts of the project, but they relate only to the common propositions and provisions. In the sub-projects, respecting the provisions and the conception of the general project, the problem-subject is treated in its entirety according to all the rules of the design procedure. In fact, such sub-projects are close to being independent projects. The greatest difficulties in the described case arise in coordinating the hypotheses, the research results, and the conclusions. These difficulties arise from the differences in indicators, methods, and research techniques, as well as in the differences in the character of the data and their meanings in two necessarily different systems of content. There is no universally applicable recipe for all research; rather, the problems are solved in each research project separately. However, one regularity can be noted: the greater the relatedness of the scientific disciplines, the smaller the difficulties; the greater the scope of the disciplinarily heterogeneous matter, the more sub-projects of greater independence are needed, and the harder it is to unify them and synthesize their results.

3.2. Model of a Complex Project with Separate Constituent Projects

The basic rules and characteristics of the model we considered in the previous chapter also apply to the model we are now considering, so we will avoid repeating them. The model of a complex research project with separate constituent projects is just an extreme case of the previous model.

It is characteristic of very complex multidisciplinary research that investigates very complex problems and subjects. The sources of the need for such research projects lie in the properties of the problem and the knowledge gained through conceptualization, in the requirements of the commissioner or the funder of the research, in the methods, and in the disciplinarity. In order to opt for independent projects within a general project, it is necessary for several conditions to be met simultaneously:

a) that the very complex research problem contains multiple factors, properties, etc., that are of approximately the same significance; b) that they belong to different scientific disciplines; c) that they are sufficiently suitable (extensive, rich in content) that a separate research project can be formed from them; d) that the scientific knowledge that can be obtained from only one research project is one-sided and insufficient, and that it is necessary to complete it by interconnecting projects in multiple scientific disciplines.

This should not be understood as a claim that such projects cannot also appear within only one discipline, although that is not typical.

The general project in the model in question can have one of two basic roles: a) a guiding role, and b) a connecting-synthesizing role. In the first role, the project is created, based on the knowledge from the conceptualization, in the following order: 1) a general research project is formed; 2) guided by it, separate projects that are consistent with it and with each other are formed; 3) the results of the relatively independently conducted research for each individual project are ascertained; 4) the obtained results of the individual projects are compared, the connections between them are discovered, and they are unified into a whole; 5) they are formed into the result of the general project, i.e., the separate results are fitted into the results of the entire research. The general project in this case must have an appropriate formulation of the problem, a research subject, research goals, a general hypothesis, and a corresponding number of special hypotheses. In this way, the basis for the function of guiding the separate projects is formed. The separate projects within the general project (the "abbreviated"-"truncated" one) can begin with their own abbreviated conceptualization and must create all parts of the project. They form the system of hypotheses relying on the general and special hypotheses of the general project, but they derive their own general, special, and individual hypotheses, select indicators and methods of research and data processing, hypothesis verification, and conclusion-drawing in accordance with the requirements of the scientific discipline and the research concept of the general project. This variant of the model in question expects all projects within the general project to be of the same type.

The second situation is the creation of a general project with the role of connecting-synthesizing. It is characterized by the fact that a general research project is not built; rather, several general propositions are formulated which express the general conception of the research. Relying on it, with some coordination or even without it, separate projects are formed according to the valid rules for creating scientific research projects and in accordance with the results of the conceptualization. It is desirable that they be of the same type. The general project, in fact, according to the chosen conception, unifies only the results. However, it is possible that a general project is subsequently built on the basis of the existing projects, that is, that the already stated conception is expanded, elaborated, and concretized.

The idea of creating one research project on the basis of already realized research, that is, existing, relatively reliable and organized data, is neither new nor original. It has been applied in the conceptions of secondary analysis, and was successfully demonstrated by Durkheim in his work on religion.

Complex models, which include separate projects from two sciences (e.g., a research project: "The interdependence of the characteristics of the population of large cities and the rivers that flow through them") because the collection of necessary data requires very different methods, techniques, instruments, and procedures. The population is not subjected to chemical treatment, while the water is subjected to both chemical and physical treatment. The water is researched experimentally and by physical analysis, the population by surveying and observation, and the conclusions are drawn by relating the data of one type and the other.

3.3. General Model of the Research Subject in the Social Sciences

The subject of research is an essential, determining part of the research project and of every research study. In science and in methodology as its special part, we find the view that the subject determines the method. Of course, the relationship between the subject and the method of its cognition is not so one-sided, because just as the characteristics of the research subject require an adequate method, the method removes obstacles to the knowledge of the subject, enabling its broadening and deepening. The modeling method plays a very large role in this due to the very diverse functions and many possibilities of applying models in science and practice.

It is true that every model is a certain simplification of a phenomenon, and that forming a model for very complex phenomena is very difficult. The question of using models was actually posed and articulated by methodologists of special methodologies in their attempts to build a general typical subject of research in their sciences and scientific disciplines. Undoubtedly, a model of a typical research subject in one scientific discipline is easier to create than for the social sciences as a whole.

The basis for approaching the creation of a general model of the research subject in the social sciences is the fact that the general subject of research for all social sciences is society, from various sides and aspects. Starting from that fact, it can be stated that society is a very complex structure. Practically, this means that society also contains relatively static, permanent factors, which is an essential condition for forming a model of the research subject.

By studying, we discover that society and every social phenomenon takes place, happens, exists, and develops under certain conditions-natural and social. Therefore, the *first stable factor of the model* that we can establish are: the natural and social *conditions*-necessary, sufficient, general, and specific-which can change, but which are always the framework and basis of every social phenomenon. The confluence of necessary and sufficient conditions appears as a cause. Limiting conditions act as constraints. The conditions can be specified and concretized in all situations. However, conditions should be understood as a presupposition that influences the properties of society and social phenomena, but also as an object exposed to the action and influence of society.

Society is composed of subjects-individuals, groups, communities, institutions, organizations, etc. Therefore, the *second stable factor of the model* is certainly *the subject-the subjects.* They can be theoretically defined and practically identified.

The subjects have their own *motives*, *interests*, and *goals*, which manifests itself in all social environments and situations and can be ascertained in various ways. This too is an essential, permanent component of human society whose properties qualify it as a factor of the model.

The *action* and *various activities of social subjects* aimed at satisfying needs and realizing interests and goals is an essential characteristic of man-of social subjects-by which they differ from all other living beings. The action of social subjects has diverse contents and forms, and through them, diverse connections and relations are established and maintained. The action of social subjects is, therefore, a necessary, stable component of the model.

In their action and behavior, social subjects use diverse *methods* and *means* that they consider appropriate for the realization of their interests and goals and the satisfaction of their needs. Along with action, it is inevitable to include in the model the *ways and means of action of the subjects of society.*

Through action in which they use certain methods and means, society and social subjects achieve certain results and cause certain intended or unintended consequences in various areas of society and nature. There is no society whose essential component is not also the product-the consequence of the action of its subjects. Therefore, an unavoidable component of the model is the set of *results* and *consequences* of human action.

Everything mentioned, from the conditions up to and including the consequences, takes place in a specific *space* and in a specific *time*. This means that to this model, we must also add space-in the sense of a defined *place of occurrence*, *a place in the natural and social system*. *Calendar and social time* must also be included. It has been customary until now to require a temporal and spatial definition in research projects that claim to be scientific.

With this, we believe we have offered a valid *structural-functional, typical, general model of a research subject*. And every research subject is a mental model-a systematically presented concept of a social phenomenon that is tested by means of hypotheses and the realization of the research.

By analyzing social and research problems and research subjects, we will be convinced that every human situation, every behavior (activity), action, and event, can be structurally fitted into this model.

From a research standpoint, an important property of this model is that it can be translated in its entirety into a concrete research subject, but also that each of its segments can be formed as a research subject, though it can never be treated in isolation. The connection between them cannot be broken.

The research subject, in connection with the presented model, can also be imagined as a process that takes place through stages and phases:

emergence - growth - culmination - stagnation - decline and cessation. Every social and research problem, process, and phenomenon can be fitted into this dynamic processual model. For example, any condition, subject, motive, action, method, or effect in practice has these phases of existence.

The research subject can also be understood as a system. The already presented structural-functional model has the characteristics of a system. Its structural segments can be understood as subsystems. However, human society is a system of conscious, volitional, active subjects. Its necessary subsystems are: the subsystem of information in the broadest sense; the subsystem of decision-making; the subsystem of communication and behavior; and, finally, the subsystem of evaluation. The actions of the subsystems can be at different times, but some subsystems can also act simultaneously.

This systems model of the research subject can also be linked with the structural-functional model.

In essence, we have built a system of typical models of the research subject in which the structural-functional model is central and basic, and the other two are additional and specifying.

It is justified to ask what these models are for and what their function is in a concrete research study. The answer is simple. The typical model (the system of three models) gives a general starting point for formulating the theoretical and operational subject of research. Any topic of social research, however titled, fits into the model, and a corresponding concretization should be performed according to the model's provisions. The practical demonstration in the "Practicum in the Methodology of Politicology" testifies to this.[26)] However, it is wrong to approach the model as a simple template into which one only needs to be "tucked" or "fitted." The model must be used creatively as a guide and a reminder that orients one toward what is desirable. The concrete subject of a concrete research study can never be just an imitation of an elastic, open model.

3.4. Foundations of the Model of Qualitative Research

There are multiple kinds and types of models, and each kind has its own foundations. The foundations of mental models, such as models of research and research subjects, have their most immediate basis in the theoretical-methodological school of thought that expresses the essential understandings of social reality. Therefore, at the foundation of every model is a past, present, or future social reality that is imagined, defined, explained, and expressed in a certain way. For our considerations, therefore, only models of a theoretical nature are essential. However, these models can be faithful, closed, rigid copies of practice, but they can also be eloquent, inspired, realistic prognostic constructions of a probable future.

Models of qualitative research find their basis in the provisions of the qualitative approach,[27)] which decisively determines the possible general subject of social research, and consequently, also the view on the interdependence of the subject, the method, and the model of research.

The qualitative approach and the conception of qualitative research appear as a reaction to the offensive, aggressive advance of the advocates of the dominance of the quantitative over the qualitative, and to the standpoint that quantification, measurement, and mathematization are the only essential criteria of scientific rigor. In the mid-20th century, Sorokin and Mills (who was also one of the creators of neo-behaviorism) sharply criticized the quantitative theoretical-methodological concept and formulated the essential propositions of the model of the qualitative approach, although they did not build the model itself.

Without entering into a critique directed at the proponents of the quantitative approach (orientation), we can accept the following as the basic propositions of the qualitative approach and orientation:

The conception of social research must be humanistic in its foundation and approach. It must reject all schools and models that lead to knowledge that can be applied for subordination and manipulation in society and of the subjects of society. On the contrary, research and scientific knowledge should be directed at liberating the individual to act in the understanding of their own possibilities.

This standpoint, while extremely altruistic and humanistic, is nevertheless one-sided and reductionist. The exclusion of a certain objective social reality from the possible subject of scientific knowledge is unacceptable due to the narrowing of the scientific subject and due to overlooking the fact that all scientific knowledge about the life and behavior of man can be applied (and is applied) in a humanistically oriented way, as well as with the opposite orientation.

Human society and man are a specific subject of research because they contain many non-material characteristics, values, and human inner experience. For this reason, the theory of so-called "basic concepts" with which it is possible to describe and classify everything is meaningless. Such a system could only relate to a "social nothingness." On the contrary, in the social sciences and social research, it is essential to build a special conceptual-terminological apparatus that will express the specificity of the characteristics of the human and the social.

In a methodological sense, the qualitative orientation considers the historical component and thus the historical method to be necessary, which makes the dominance of observation and experiment in the social sciences untenable.

The highly emphasized role of theory and its relationship with research are relativized by the requirement to establish an "elastic" relationship between theory and research. The elasticity of this relationship can primarily relate to empirical research due to the changeability of social phenomena. And indeed, real, qualitative social changes cannot be discovered only by theoretical research, which can "anticipate," assume, and explain them, but cannot properly ascertain and describe them. In understanding the justification of this standpoint, an understanding of Merton's claim about the occurrence of "serendipitous" discoveries and the appearance of data in research that were not planned by the research project plays a large role.

From the presented propositions, the requirement for building "sensitive" concepts through strict definition and operationalization is also derived, by which their communicability, as well as their theoretical and historical sensitivity, is achieved.

The standpoints of the qualitative orientation on research methods are decisive. Preference is given to: I) sequential analysis, II) qualitative analysis.

Analysis has three stages: (1) posing the problem; (2) searching for an explanation of the problem; (3) discovering and forming data-indicators of a phenomenon that cannot be systematically studied.

Global problems and systems, and particular problems and systems are understood as the subject of qualitative analysis. However, the level of particularity is not clearly defined.

Great importance is attributed to sequential analysis, and its three basic steps are established:

(1) the selection and definition of the problem, concepts, and indicators;

(2) determining the frequency and distribution of phenomena (which is proof of the acknowledgment of the quantitative component);

(3) including the obtained results in some theoretical model (which indicates that the qualitative approach accepts models as a useful scientific creation connected with research).

Knowledge is acquired through empirical research by applying research methods (methods of data collection): (a) participant observation; (b) in-depth interviewing; (c) field ("actualistic") work and full participation in the researched activities.

This is the basis for constructing described and descriptive systems through: (1) preliminary classification; (2) systematic typology; (3) partial systematization.

The qualitative approach seeks the connection of several variables and the discovery (suggestion) of a relationship between them. The creation of certain types (typologization) is also a method of this conception, which forms the so-called MATRIX formula by which one arrives at "national character," "personality type," "spirit of the age," and other typical characteristics of social phenomena.

The considered approach opens and brings to the fore questions of generality and generalization, the breadth and application of classification systems, the problems of comparing data and verifying hypotheses-and the role of the experiment in this, as well as the problems of drawing broader conclusions.

For our consideration and conclusion about the orientation in question as a basis for a model, the following questions are essential: (1) what is its relationship with the quantitative approach; (2) does it provide enough essential factors for the formation of a corresponding research model; and (3) what is the relationship of the qualitative approach to the presented structural-functional typical model shown in the previous chapter.

The qualitative approach prioritizes the qualitative characteristics of society and social phenomena, such as: existence, structure and composition, properties and features, behavior and action, connections and relations, consciousness and feelings, values, etc., but it does not dispute their dimensioning, that is, their quantities. It does not accept "empty quantities," "basic concepts" that encompass all social characteristics and contents, the absolutization of measurement, and the possibility of the mathematization of everything. It criticizes "quantophrenia" and the "cult of numerology," but it does not dispute the value of appropriate quantification and measurement of the quantitative characteristics of social phenomena. Therefore, this approach is not exclusive.

It could not be claimed that the qualitative conception explicitly communicates all the essential factors needed to form a structural-functional model, but it does communicate the most important starting factors on the basis of which the other factors can be derived by the analytical-synthetic method. Such a model could be usable within the given concept, but it would not be reliable enough for use outside of it.

The qualitative approach does not contradict any provision-any factor-of the presented typical structural-functional model of the research subject, nor the possibilities of its application. On the contrary, the understandings of the uniqueness of society and social phenomena as a research subject and the requirement for "sensitive concepts," historical and theoretical communicability, definition, and operationalization directly support the model.

3.5. Foundations of the Model of Quantitative Research

Quantitative research, thanks to its fundamental commitment that science must quantify, measure, and mathematize, abounds particularly in mathematical models.[28)] These are individual or partial models. However, they belong to one conceptual general quantitative model, whose essential foundations we will attempt to identify in this part.

The foundation of quantitative research consists of: (1) scientific laws, scientific explanations; (2) symbols and the possibilities of symbolic expression; (3) the possibilities of quantification; and (4) the possibilities of valid modeling. The existence of computers and the internet, and the development of simulation techniques expand the possibilities and applications of quantitative research and make the whole problem more current. But what is quantitative research in the social sciences?

At first glance, defining quantitative research is simple because the essential characteristic is in the name itself: the quantity of the results arrived at by quantitative methods-by applying measurement and mathematization and by using numerical and symbolic expressions.

If we consider this standpoint, applied to certain social sciences and social phenomena, we will arrive at significant problems. First, the social sciences are qualitative-quantitative. Can a purely quantitative subject of research be defined in the social sciences? Are not the population census, the movement of supply and demand on the market, the size and composition of the electorate and the number of votes for and against, etc., quantitative research subjects? Are there not generally accepted methodological standpoints on scaling as measurement, and on the nominal scale (the scale of naming) as a way of measuring? Is not every act of distinguishing between the subjects of social reality, according to the previous assertion, already measurement-let alone classification? And so on, ad infinitum.

It is simple to claim that all research whose subject is a specific quantitative phenomenon, whose goals are the description-explanation-prognosis of that quantitative phenomenon, whose hypotheses are quantitative and numerically expressed, whose indicators are quantitative, whose methods of cognition are mathematical-statistical, and whose results are quantitative-is true quantitative research.

But if that is so, is there any non-quantitative research? We are not aware of any scientific research that does not perform definitions, naming, classifications, distinctions, etc., and that, on the basis of the definition of the nominal scale, would not be quantitative. Let us admit that for now, we have not succeeded in properly defining the concept of quantitative research.

The basic propositions of the quantitative approach, which should also contain the basic factors of the model, can be presented in the following way:

(1) every quality has its quantity;

(2) the basic logical processes and the foundations of scientific knowledge are the same in all sciences;

(3) the essential properties of scientific knowledge are: generality, precision, verifiability, repeatability, predictability, and comparability;

(4) there is an autonomy of research methods from the subject of the science and the research;

(5) everything can be quantified, measured, and expressed quantitatively;

(6) precision also depends on language, and the most precise is mathematical language;

(7) an essential property of science is generalization, therefore abstraction, which means simplification and moving away from reality, therefore reduction-reducing to the essential;

(8) an unambiguous operationalization of concepts is necessary and, connected with that, a link to theory;

(9) the meaning of the concept "quantification" implies:

(a) an empirical basis and a constant connection with the empirical;

(b) a theoretical basis and the investigation of theory with mathematical language, with reference to the correlates of reality.

This means that quantification requires the expression of the research subject with quantitative, numerical data and in statistical-mathematical language-with patterns and formulas;

(10) classification is understood and applied as measurement.

The quantitative foundation of the model arises early, one could say with the advent of counting and dimensioning, but it is considered to be established in European social practice and science in the 12th century. It achieves its development in the 18th and 19th centuries, and a distinct affirmation up to the 1960s-1970s. Three phases of development are evident:

(1) the phase of primitive statistical recording;

(2) the phase of the development of the statistical method from the census towards the sample, statistical generalization, and conclusion-drawing about and on the basis of statistical generality and statistical laws;

(3) the phase of mathematization, the creation of mathematical models and simulation models, etc.

In the quantitative concept of research, a significant internal inconsistency is noticeable, which cannot be explained without insight into the previous phases of development and its simultaneity with the development of empirical research in the social sciences and with the development of positivism and empiricism. The empirical world is a diverse and varied reality, and especially social reality with only relative uniformity, with the uniqueness and unrepeatability of certain social macro and micro totalities on the one hand-and mathematics, an abstract, specific science with its stable norms and regularities, on the other.

For a more complete understanding and analysis of this approach, it would be necessary to study in detail: a) Lundberg's concept; b) Lazarsfeld's concept; c) the concept of mathematical models; d) the concept of simulation models. But that is not the task of this work, and the complexity of the matter requires a complete separate course.

It is essential for our considerations to keep in mind two general propositions:

A) The quantitative approach and its demands for mathematization are not equally close and applicable to all social sciences and all social phenomena. They are closest to social statistics and economics, and furthest from fictional literature. It is correct to consider that the quantitative approach is more suitable for those sciences and scientific disciplines whose subjects are less changeable and less diverse, in which the relative uniformity and homogeneity is greater and the variability is smaller-and in relation to which there are more stable and truer social and scientific laws and explanations.

B) For the construction of a research model, only the indubitable contributions of the approach are essential. It is justified to keep the criticisms in mind, but only that which has survived despite criticism can be accepted as a factor of the model.

As a real methodological contribution of the quantitative approach, the following can undoubtedly be accepted:

(1) the insistence on a clear, direct statement of a proposition, judgment, conclusion, postulate, standpoint, question, etc.;

(2) the emphasis on the requirement for strict definition and operationalization of concepts;

(3) the insistence on precision and formalization;

(4) the insistence on communication and correlation between theory and reality;

(5) the requirement of an empirical foundation and systematicity;

(6) the affirmation of surveying, observation, and experiment;

(7) the development of methods and techniques of measurement, both "metrically" (by applying exact and conventional measures) and by parameters;

(8) the development of the application of mathematical language in social, and even more so in other, research;

(9) the development and affirmation of "inductive-analytical" procedures.

It is true that the errors and shortcomings of the approach have a limiting effect on the possibilities of creating a quantitative model of research in the social sciences. Therefore, we will mention only the basic, essential shortcomings:

(1) not everything, not even the largest part of the statements in the social sciences, can be expressed in mathematical language. Behind every symbol and mathematical expression in the social sciences, there must be a verbal statement about its meaning;

(2) in the social sciences, the precision of definitions and concepts is very desirable, but difficult to achieve or unachievable because a concept is only an abstract expression of a very diverse and varied reality. A general number can denote any concept, but any, even a specific concept, cannot express social reality without further elaboration;

(3) patterns and formulas necessarily significantly, and even excessively, simplify social phenomena, relations, and movements; they can express only a part of a general regularity, but not the characteristics of the deviations of smaller wholes and individuals;

(4) patterns cannot express the relationships of needs, the movements and relationships of consciousness and will, and other characteristics that are not realized according to strict regularities and laws;

(5) the rejection of historicity means disregarding the fact that society is a historical phenomenon and that man is also a socio-historical creation;

(6) multiplicity, spatio-temporal-social dispersiveness, and changeability together make it impossible in social practice and the sciences to list and define all varieties. We arrive at the typical and the typological-and this we can express with various patterns and models.

The presented judgments lead us to the conclusion that there are not enough factors to build a single, unified model of a quantitative model in the social sciences, and that there are not enough arguments that such a thing is truly necessary. However, the general principles and postulates presented encourage the effort to build such models within individual sciences, and even more so, scientific disciplines or mass phenomena.

The model we presented in chapter 4 is in principle not in contradiction with the quantitative approach, but its complete mathematization and its expression exclusively in mathematical language is not possible. It is more suitable as a methodological-theoretical general framework and an approach to creating models for specific quantitative research studies.

3.6. The Problem of Building the Foundations of a Model of the Qualitative-Quantitative Approach to Research in the Social Sciences

The answer to the questions posed by the title has already been given in the two preceding chapters. Since neither a purely qualitative model nor a purely quantitative model of research is possible, it is justified to study and critically evaluate the current practice of scientific research of society and social phenomena and to study the findings of methodology on this issue.[29)]

It is undisputed that all empirical research projects contain qualitative characteristics of phenomena and that in certain parts of the project and its realization, they dimension them. It is also true that in the scientific research of social phenomena, the statistical general scientific method is unavoidable, and that methods ranging from the basic ones to the methods of data collection connect the qualitative and the quantitative, the individual, the general and the particular, the theoretical and the empirical, that they start from valid laws, regularities, and scientific explanations, that they verify them, confirm them, build upon them, etc. This practice, in fact, tells us that if separate models for qualitative or quantitative research are not appropriate, then a synthetic general model of qualitative/quantitative research is possible and useful. In scientific-research practice and methodology, certain postulates and structural-functional frameworks have already been offered-by the very fact that the research project is a mental model-a systematic and scientifically founded concept, and the realization of the research is the factual and critical implementation of that model.

On this basis, we can record the following factors of a model of qualitative-quantitative research in the social sciences:

(1) *Problem*: Qualitative definition and dimensioning-quantitative determination.

(2) *Conceptualization* (first stage): Grasping, understanding, and articulating and identifying qualitative and quantitative characteristics through the research task, the conceptual outline, and the thematic definition.

(3) *Blueprint of the Scientific Concept - Subject*: Through the formulation of the problem, and the preliminary, theoretical, and operational definition of the subject: a) qualitative definition and selection of the research content and research goals; b) quantitative dimensioning and determination of the content's scope, intensity, frequency, distribution, and level, etc.

(4) *Blueprint of the Scientific Concept - Hypotheses*: Formulating unverified, well-founded judgments about the qualities and quantitative determinations of the phenomenon as variable, and of its components-the variables. Expressing the propositions of the hypotheses verbally, numerically, symbolically-mathematically, depending on the properties and content of the hypotheses. The choice of qualitative and quantitative indicators.

(5) *Methods: Choosing qualitative, quantitative, and qualitative-quantitative methods and techniques of research, creating suitable instrumentation, procedures, and plans. Models.*

(6) *Testing: Qualitative and quantitative testing of what has been previously prepared, and interventions.*

(7) *Data Collection: Collecting data of a qualitative and quantitative nature with the foreseen methods and techniques.*

(8) *Data Organization and Processing*: Organizing and processing data, grouping and classifying it according to qualitative-quantitative features, connecting it via indicators to the hypotheses, formulating various narrower (partial) models, and drawing conclusions about the qualitative and quantitative components and their relationships, and about the whole.

(9) *Presentation of Results: Presenting the results-the scientific knowledge of the research*-about the qualitative and quantitative determinations of the results in interconnected qualitative-quantitative formulas.

This would be the skeleton of the model of qualitative-quantitative research. Each of the nine factors needs to be concretized.

The presented typical structural-functional model can be understood as an approach to elaborating on point 3.

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1. Radosavljević, Ivan: in his work on the hypothetico-deductive method, points out that "observation is the initial moment of acquiring knowledge," see Radosavljević, Ivan: *The Hypothetico-Deductive Method in the Research of Politics*, Dečije novine, Gornji Milanovac, 1996, p. 94.

2. Popper, Karl: *The Logic of Scientific Discovery*, Nolit, Belgrade, 1973; p. 65 - points out the great significance of the appearance of a new idea in empirical psychology. "The question of how it happens that a new idea appears in a man, whether it is a musical theme, a dramatic conflict, or a scientific theory, can be of great significance for empirical psychology."

2a. Klaus von Beyme points out that science begins with problems and that they provide the impetus to increase our knowledge, and at the same time, that it is not possible to know problems without a certain level of knowledge. In support of this view, he also quotes K. Popper: "No problem without knowledge - no problem without ignorance." *Contemporary Political Theories*, Stvarnost, Zagreb, 1974, p. 43.

2b**.** Dewey, John: *Logic: The Theory of Inquiry*, Belgrade, Nolit, 1962, p. 152. According to Dewey, research is preceded by an "indeterminate situation which becomes problematic in the process itself, when subjected to inquiry, which means that inquiry begins neither with the collection of facts, nor with observation, nor with the positing of hypotheses (given that there are authors who believe that inquiry begins with observation, with the collection of facts) but with a problematic situation. Such a problematic situation is what influences the appearance of the problem."

3. Likewise, sources can be: primary or original sources of information, secondary - sources compiled on the basis of primary sources, tertiary - third-order sources, which are compiled on the basis of secondary sources...

4. Milosavljević, Slavomir: *Research of Political Phenomena*, Belgrade, 1980, pp. 148-156.

5. Mužić, Vladimir: *Methodology of Pedagogical Research*, Sarajevo, 1968, Institute for Textbook Publication, pp. 57-58.

5a**.** Milić, Vojin: *Sociological Method*, Belgrade, 1965, Nolit, p. 288.

5b. Milosavljević, Slavomir: *Research of Political Phenomena*, Belgrade, 1980, Institute for Political Studies and the Center for Youth and Pioneers, pp. 64-68.

6. Most authors of methodological works do not deal specifically with defining the subject of research as a part of the research project. What's more, the subject is often confused with the problem and the goal of the research, although from the requirement to specify and dimension the topic, problem, etc., it can be considered that this is a requirement for an appropriate definition of the subject. Gian Antonio Gilli, op. cit., pp. 41-47, claims that the "topic" is not "chosen" in advance but is "discovered during the research." Goode and Scott, op. cit., pp. 69, 75-78, insist on the specification and dimensioning of the problem.

7. (1) Pečujlić, Miroslav, mentions a twofold determination of the definition of the subject: a) theoretical and b) working. See: *Sociology between Revolution and Apology*, Belgrade, 1973, RO Institute of Political Studies FPN, pp. 102-108.
(2) Pešić, Mihajlo: *Introduction to Sociology*, Belgrade, RO Institute for Political and International Studies - OOUR Institute for Political Studies, p. 117, is explicit that "scientific research in sociology, as in any other science, begins with the definition of the research subject."

8. Pečujlić, Miroslav: *Methodology of Social Sciences*, p. 45, "Theoretical definition is a logical abstraction by which the essence of a phenomenon is determined by means of abstract phenomena."

9. Milosavljević, Slavomir: *Youth in the Political Process*, pp. 167-173.

10. (1) Pečujlić, Miroslav: *Methodology of Social Sciences*, p. 131.
(2) *Sociology between Revolution and Apology*, p. 103: "The operational-working definition consists in determining the indicators that can be examined and verified and that represent the external manifestations of an abstract concept..." This standpoint can be acceptable only if the operational definition of the subject is understood as the basis for the content of the hypotheses that will be tested, and thus also the basis for the indicators that we will use in that process. Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, op. cit., pp. 298-300.

11. There is some confusion surrounding scientific goals in research in general. First, it is undisputed that every science strives for scientific explanation and scientific prognosis. However, does this also apply to descriptive sciences? If it does apply to them, then their name and the division into descriptive and experimental sciences are not justified.

12. Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, pp. 242-243.

13. Milosavljević, Slavomir: *Political Action*, p. 22.

14. Zaječaranović, Gligorije, op. cit., p. 185, mentions functional, genetic, teleological, and statistical explanations.

15. Nagel, Ernest, op. cit., pp. 13-23, lists four models of explanation: 1) deductive, 2) probabilistic explanation, 3) functional or teleological, and 4) genetic.

16. Milić, Vojin: *Sociological Method*, p. 373, speaks of a theoretical-hypothetical system.

17. (1) Goode and Hatt, op. cit., p. 66.
(2) Goode and Scott, op. cit., pp. 82-83.
(3) Mužić, Vladimir, p. 58.
(4) Pešić, Mihajlo: *Introduction to Sociology*, pp. 117-118.

18. (1) On the functions of the hypothesis, see:
(2) Goode and Hatt, op. cit., p. 56.

(3) Northrop, F.S.C., op. cit., p. 30.

19. (1) Šešić, Bogdan: *General Methodology*, pp. 276-279, 290, 320, and 357.

(2) *Fundamentals of the Methodology of Social Sciences*, pp. 236-240 and 212-224.

20. Milosavljević, Slavomir: *Research of Political Phenomena*, p. 107.

21. (1) On the "null" hypothesis, see Goode and Scott, op. cit., p. 83. "...it is assumed that there is no significant difference or relationship, and then one seeks to establish that the null hypothesis is not probable..."

(2) The null hypothesis is also mentioned by Mužić, V. and Lekić, Đ. in their cited works.

22. (1) Županov, Josip: Indicators; in the collection *Methodology of Research in the Social Sciences*, Belgrade, 1962, Institute for Criminological Research, pp. 46-60.

(2) Goode and Scott, op. cit., pp. 433-438.

(3) Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, p. 200.

23. (1) Lekić, Đorđe, op. cit., pp. 27-46.

(2) Mužić, Vladimir, op. cit., pp. 28-32.

(3) Goode and Scott, op. cit., pp. 57-67.

24. Milosavljević, Slavomir: *Research of Political Phenomena*, pp. 125-132.

25. The problems and structure of research design have, as far as we know, been covered by:

(1) Milosavljević, Slavomir – Radosavljević, Ivan: *Fundamentals of the Methodology of Political Sciences*, (first edition), Službeni glasnik SRS, Belgrade, 2000.

(2) Milosavljević, Slavomir - Radosavljević, Ivan: *Fundamentals of the Methodology of Political Sciences*, (fifth edition), Službeni glasnik SRS, Belgrade, 2013.

(3) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, DAX - trade, Sarajevo, 1999.

26. Termiz, Dževad - Milosavljević, Slavomir: *Practicum in the Methodology of Politicology*, Sarajevo, 2000.

27. (1) Halmi, Aleksandar: *Methodology of Research in Social Work*, p. 108.

(2) Bogdanović, Marija: *The Quantitative Approach in Sociology*.

28. Ibid., p. 107.

29. Halmi, Aleksandar, op. cit., p. 109.

VIII - DATA COLLECTION IN SCIENTIFIC RESEARCH

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Data collection is a necessary stage in the implementation of every scientific research study, whether it is predominantly empirical or predominantly theoretical.

This stage immediately follows the training and checking of collaborators, the pre-research by which the validity of the research project is verified, and any potential reconceptualization.

The common phrase "gathering data" implies by its meaning that ready-made data already exists, which we merely gather. In the reality of research, based on selected and defined indicators, we discover certain manifestations of reality, record them and articulate them, evaluate them and select them, classify them, and assign meaning to them. Therefore, there is no ready-made data; rather, we obtain it through our activity.

The process of data collection takes place according to a strict procedure and the provisions of the plans contained in the part called the "Blueprint of the Scientific Concept - Manner of Research," as well as in accordance with the selected sample and the chosen methods and techniques.

1. The Concept of Data, Facts, Indicators, and Variables

In literature, one may encounter views that do not sufficiently distinguish between facts and data, and the assertion that facts are collected during research.[1)] For most scientific research in the social sciences, this is not correct, as it is concerned with obtaining data, while the research of only some of these sciences is directed at collecting facts, which also appear in the role of data sources. In this sense, the example of research in archaeology, and also in ethnology, is illustrative. But even the collection of objects (and some objects, due to their properties, cannot be collected-remains of buildings, for example) primarily serves to arrive at data that will be scientifically processed. Therefore, it is necessary to distinguish facts from data, as well as data from indicators and variables.

Facts are the actual constituents of social reality, of society, of social phenomena, etc., and they manifest themselves in various ways, and are themselves of various kinds. In this regard, we must distinguish between *material facts*-which are objective, physical wholes of a specific composition and form; *intellectual facts*-as intellectual creations and activities, or more broadly understood as psychic facts; and facts of *social behavior-action*-which includes all activities of man as a social and natural being. All these facts in some way express their content, form, and essence-directly or indirectly.[2)]

No research project and no single research study refer to all the facts of social reality. The facts about which scientific knowledge will be acquired are determined primarily by the subject, hypotheses, variables, and indicators in the research project. We will obtain data about them.

Data is our more-or-less partial knowledge about specific expressions (manifestations) of facts. Therefore, the immediate content of data is indicators-selected manifestations of a phenomenon that show and represent it; and only through them is the content of data also the phenomena, that is, their parts, aspects, properties, etc., which we have called variables due to their real and potential changeability. Enough has been said about variables and indicators in the previous expositions. In forming data, through our sensory and intellectual activity, we first ascertain the existence or non-existence of a specific indicator, and then its content and meaning. An indicator only truly becomes an indicator through valid data, i.e., it is valid only if it is possible to form it as a component of information or as information about a phenomenon which, when connected with other data, allows for scientific deliberation and true cognition of the phenomenon.

No single piece of data whose content is a simple indicator can serve as sufficient confirmation or negation of any thesis. Namely, a simple indicator and the data about it are too poor in content to be considered a valid argument. An argument is convincing information. Although, according to some definitions, data is information about reality, we must keep in mind that information is a set of meaningfully connected data that has its own meaning, and thus only a syndromic indicator is truly the content of complex data. Information about reality, therefore, an argument-whether positive, a confirmation, a proof, or, conversely, a negation-cannot be simple data; it can only be information.

A specific type of fact is "*scientific facts*" and "*cognitive facts*". We can classify these as *intellectual facts*. We understand "scientific facts" as scientifically verified, true knowledge proven by social practice. We understand "cognitive facts" as accepted but not yet proven scientific knowledge, which is nevertheless functional in the acquisition, development, and verification of scientifically recorded scientific knowledge. Simple indicators, and therefore simple data, cannot be found for these types of facts.

2. Types of Data and Basic Classification Criteria

There are many types of data and criteria for classification. At the very beginning of research, we encounter: (a) assumed data contained in the hypotheses, the "manner of research," and the processing plans. They are called "assumed" because it is considered probable that the research will arrive at them; (b) trial data which is created through pre-research, by which we have tested the application of the project in research practice; (c) working-functional data which is arrived at through the realization of the research and on the basis of which we judge and draw conclusions about the research subject. We will not speak of usable and unusable data, or true and false data, because we consider these and similar classifications to be bizarre.

For designing research, planning data collection, and the methods of collecting and processing data, we consider the following to be more important:

1) the sources and origin of the data;
2) the nature of the material-the basis of the data;
3) the subject matter of the data's content;
4) the subject-the author of the data;
5) the form or manner of expressing the content;
6) the public nature of the data;
7) accessibility, and
8) the official and formal nature of the data sources.

(1) The sources of data are a very significant factor in the validity and reliability of the data.[3)] The difference between the very diverse empirical sources-in which we can include people, individuals and their collectivities, i.e., their different

statements, actions, and creations-and scientific sources, as a specific type of human creation, is immediately apparent.

Both types of sources are important for empirical research, with an emphasis on the empirical ones; for theoretical research, scientific sources have precedence.[4)]

(2) The nature of the source material directs us to distinguish between:

- *creations of material culture*, such as artistic, recreational, and daily-use items. Sometimes, all or only some of these characteristics can be found simultaneously in the same material object;[5)]
- *creations of intellectual culture*;
- *the behavior of the subjects of society-verbal, practical, and other.*

(3) Given the complexity of the social sciences, classification by the *subject matter of the source* is possible only in general terms:

- sources whose subject is *society as a whole (undifferentiated sources);*
- specified sources whose subjects are specific aspects of society and social phenomena;
- *disciplinarily specialized sources*-those that contain data only about phenomena or aspects of phenomena belonging to a specific science or scientific discipline of the social sciences;
- *strictly subject-selective sources* that contain data only about a strictly, narrowly defined set of problems within one scientific discipline. In research activity, we first direct ourselves to the fourth group of sources by their subject definition. The provisions of this classification act as a guide.[6)]

(4) By the criterion of *authorship*, it is possible to classify sources in many ways (by collectivity, roles, value orientations, etc.), but it is essential to distinguish between: (1) competent and (2) incompetent sources, with corresponding degrees or rankings of the source's competence.

(5) *The form or manner of expressing the content* of the source is connected with the way it is used. By this criterion, it is advisable to distinguish between:

– *auditory*,

– *visual*,

– *audio-visual,*

– *other*-whose manner, apart from tactile, cannot be foreseen at present.

(6) *The criterion of public nature* is a very complex and imprecisely defined criterion when the social sciences are viewed as a whole. It requires multiple levels of distinction. The first is the distinction between (1) *social* and (2) *private sources*, due to the possibility of special protection and conditioned use of the source. The second is the distinction into: (1) *legal*, (2) *illegal*, and (3) *semi-legal sources*, which is very important due to social and legal responsibility and scientific conscience. The third level of distinction implies a division into: (1) *public sources*, (2) *internal*, (3) *confidential*, (4) *secret/top secret*.

(7) The *accessibility of sources* is of pronounced significance for every researcher. The concept of accessibility itself is considerably broader than the concept of public nature and must not be reduced to it, nor to the modern concept of "transparency." It is clear that one must distinguish between (1) *accessible* and (2) *inaccessible sources*. For researchers, the reason for a source's inaccessibility is important in order to remove the factors of inaccessibility. The usual reasons for inaccessibility can be: (1) *administrative (political, business, legal)*; (2) *educational-cultural;* (3) *economic-financial;* (4) *technical*; (5) *organizational*; (6) *informational*; (7) *rarity-uniqueness of the source, etc.* The researcher must study which obstacles can be removed and how, by applying modern electronic means and other appropriate ways.

(8) *Official and formal* sources are in principle considered more reliable than unofficial and informal ones. In practice, this is often not the case! Besides, official and formal are not concepts of the same value. For example, an official personal document

(an official passport) cannot be valued the same as a bill paid in a restaurant.

The origin of a source is of special significance for every researcher because it is connected with the origin of the data. This is otherwise a very complex issue and is contradictory in some of its provisions (e.g., due to one-sidedness). It must not be a priori attributed the quality of objectivity and truthfulness; rather, it must be approached with a certain reservation. By authenticity, sources can be divided into: (1) *original-authentic*; (2) *interpreted-authentic*; (3) *interpreted-inauthentic*; and (4) *arbitrary*.

Documents, in the broadest sense of the word, as *specific sources of data*, are subject to the aforementioned classification criteria, and some others can be added to them, such as: originality, time and place of origin, scope, exhaustiveness, etc. For a researcher, it is a significant indicator of the value and usefulness of a source if they know which type the document belongs to.[7)] It seems important to distinguish the following *types of documents*: (a) *scientific-scientific works*; (b) *journalistic*-in which, perhaps without sufficient reason, we also include artistic works; (c) *informational*-products of the media; (d) *actional*-programs, plans, instructions, orders, etc.; (e) *propaganda and advertising*; (f) *evidentiary/recording*; (g) *normative*-all regulations, and procedural; (h) *work-business*, etc.

It is understandable that other classifications are also possible and useful, but this one, as a starting point in social research, is purposeful, especially if one distinguishes between: museum materials, archival materials, library materials, and currently active-currently functional documents.

For every conscientious researcher in a scientific study, a proper understanding and the distinction and identification of empirical data, their evaluation, and their meaning is very important.

Experiential (empirical) data is by no means just sensory perception, but is also a creation of human and social experience and knowledge, and of the experience and knowledge of the researcher. *Data, by its form of manifestation*, can be: (1) *a statement-oral, written, artistic (visual), auditory-musical,* etc., and it can be a *combination of several of them at the same time.* This is, for example, the case with television statements; (2) *behavior*; (3) *action*; (4) a *creation*, etc., but always connected with the meaning of the one who communicates and the one who receives the data. Here we will now consider only the oral expression of data and the reception of that data, and in the analysis of documents, we will deal with other sub-types of statements.

A statement is not just a verbally expressed proposition, judgment, or conclusion, etc., about something, but it is also the situation in which the statement was given, the mimicry and gestures with which it was accompanied, the tone in which the statement was given, the conviction and determination that was displayed, the attitude towards the researcher and towards the problem, etc. How can the sense and meaning be determined, and how can statements be recorded in which the same words, sentences, and linguistic expressions were used if different tones were used for the statement: indifferent, suspicious, sarcastic, etc.? It is not difficult to find a solution for rare individual situations. The problem truly arises only with the cumulation of data, with their grouping and classification. Are all those statements of the same meaning if they were expressed with different tones, different mimicry and gestures, if they were given in different situations? What does the statement "we hope for the better" truly mean, and how can one separate an optimistic statement that refers to the general social good from one that refers to the family and personal good? How can certain optimistic statements about the expectation of better days in society be connected and harmonized with the factual endeavor to find a job abroad and to survive there?

Methodology still does not have a valid, reliable answer to the questions posed, nor is the existing knowledge from psychology a sufficient support for it. For now, this is resolved with instructions on the work of the researcher, by using stereotypes and typical statements and meanings, and by control. Although satisfactory prognostic results are often achieved, the problem is not solved.

Despite all the enumerated difficulties, empirical research is unavoidable. The openness of the expressed problems is only an impetus for the most conscientious conceptualization and creation of a research project, and for the most conscientious behavior in the realization of the research and for the most professional personnel possible. Current scientific knowledge shows that in the behavior of people in certain time periods, certain factors play a dominant role and that there is an awareness of them, that in certain spaces and times there are typical statements and behaviors, that changes do not occur all at once as an event but as tendencies whose development can be tracked, and on the basis of which predictions can be made. On the basis of all this, the *average meaning* of a statement, behavior, or action in a given time, in a given space, and under established, or approximately the same, social properties and conditions can be understood. This is the basis for a relatively reliable attribution of importance and meaning, that is, for the interpretation of data, in which knowledge of customs, habits, and cultural tradition helps significantly.

For a correct understanding and comprehension of meaning, continuous or at least successive research with a truly socially representative sample and systematic methodological research are necessary.

3. Methods and Techniques of Data Collection

When defining the concept of a method, we said that a method is a complex system of logical rules, scientific knowledge about the subject and the method, and techniques by which scientific knowledge is acquired. We classified methods as: basic methods of cognition, general scientific methods, and methods of data collection. In doing so, we distinguished between methods that are directly applied in research, those that have their own developed research techniques, and those that do not.

By techniques, we meant established types of instruments and their systems of operational procedures in research and in the handling of instruments.

Among the methods of data collection, we included: (1) observation, (2) surveying, (3) experiment, (4) the method of document (content) analysis, (5) the case study method, and (6) the biographical method. Some of the methods mentioned in the exposition on theoretical-methodological schools (the ideographic method, functional observation, ideal type, etc.) we have not included among the methods of data collection. However, there is no full agreement with the view that all these methods are indeed methods of data collection. Thus, for example, M. Vujević is explicit in his claim that the experiment is not a method of data collection (in the book: "Introduction to Scientific Work", p. 83), nor does he list the biographical method and the case study, but he does include measurement among the methods of data collection (p. 85). Indeed, M. Vujević is right to consider surveying (which he presents through the survey questionnaire and the interview), observation, and "case analysis" as essential methods of data collection. However, measurement is not a separate method of data collection, but rather permeates all these methods, and it also plays a significant role in data processing and the presentation of results.

We are obliged to explain our choice to include the experiment, the case study, and the biographical method among the methods of data collection.

First, we have emphasized that a method does not consist only of the technique of data collection, but that a method is, among other things, also a conception of data collection based on certain rules, postulates, and knowledge about the processes of the manifestations of indicators and their understanding.

Second, the methods of data collection provide not only simple data, but also complex and very complex data.

Third, methods are not simple uniform wholes, but have their various forms and shapes, and the general procedure is realized through various specific procedures.

The fact is that none of the mentioned methods of data collection is exclusively a method of data collection; rather, each of them also contains rules for the processing, use, and evaluation of data. Also, in the same research study, not all forms and shapes of a method have to be applied, nor does only one method have to be applied.

We have treated the experiment, the case study, and the biographical method as conceptual and operational methods of data collection because they prescribe special procedures and sequences for collecting data from specific sources and of specific types. What's more, the result of just one trial in an experiment, just one case study in a mosaic of case studies, or just one form of the biographical method provides no more than one individual or cumulative-complex-piece of data. This will be discussed in more detail when treating each method separately in its consideration.

1) Methods and Techniques of Data Collection in Empirical Research

All the listed methods and techniques of data collection from the previous chapter are applied in empirical research.

The method of observation is considered to be the first method of data collection, which is connected to and based on the abilities of perception, representation, and human thought about what is perceived. It is obvious that observation is indeed a very suitable method for knowing reality in general, and specific social reality as well. With it, the truly manifested facts of reality are directly observed. However, in the research of society and social phenomena, as a scientific method, it is burdened with certain weaknesses and difficulties.

The surveying method (survey questionnaire, interview) is connected to and conditioned by the emergence and development of language and speech, as well as the development of people's ability to communicate with each other, and by society's need for communication. Unlike observation, surveying accepts the knowledge of others and statements about them as a valid basis for collective knowledge. Given that people live concretely in reality, that they observe that reality, experience it, and communicate with each other in it and about it, the standpoint that they have experience of the reality they have cognized and known, and that they can give a true statement about it, is justified. They testify about reality! But surveying is based on mass testimony, which can derive a general truth from a multitude of individual statements.

The experiment entered the social sciences from the natural sciences. However, a true (laboratory) experiment is not the cognition of directly manifested reality. An experiment in natural conditions and quasi-experiments: the natural and the ex post facto experiment, do describe that manifest reality, but they also discover hidden influences and processes.

The case study is a significantly more complex method of data collection. It establishes a complex system of selection, collection, and verification of the truthfulness of data. A case study always deals with a specific whole of reality. In the "series of case studies" type or in the "mosaic of case studies," each study is one cumulative piece of data or a set of data.

The biographical method is based primarily on personal letters and written biographies, and later on various other sources of data. But no other method of data collection is based on personal letters and personally written or dictated autobiographies.

We have left content analysis, that is, the analysis of documents, for the end, both for empirical and for theoretical data collection. It is based on people's ability to create, to produce material and intellectual creations-and on writing and literacy, on the abilities of symbolic communication.

An essential feature of all the mentioned methods is that they enable scientific knowledge about reality, and for that reason, some also call them "empirical methods".

2) Methods and Techniques of Data Collection in Theoretical Research

Whether theoretical research also requires data collection is a question to which we have partially answered in several places in this work.

Theoretical research is essentially scientific deliberation about a specific phenomenon, process, etc. It is considered that scientific theoretical research deals with the essence, not only with what is apparent but also with what is not, e.g., ideas. In this consideration, we cannot deal with philosophical theoretical thinking, but we must orient ourselves to the theoretical research of (other) social sciences. An analysis of the process of the emergence of theories points to the following: the emergence-the appearance of an idea: a) the source is empirical problems about which one thinks; b) the source is a theoretical proposition, statement, or a gap in a theory. In the first case, we have two directions of movement: a) logical thinking about the problem without relying on other theories and research results-original thought applying axioms and basic methods of cognition; b) scientific logical thinking about the problem with reliance on existing theoretical knowledge and research results. In the second case, the subject of the research is the theory itself.

Only in the case of the absence of a theoretical proposition does the idea not form on the basis of data (except on one piece of data-that there is no proposition), and data does not have to be collected for the purpose of its further development. In all other cases, data is collected both about the problem and about the idea itself and about the possibilities for the further development of the idea. This data is individual and cumulative. It appears in the form of propositions, judgments, etc., of a theory and of research results in three variants: studying and deliberating (proving and refuting, generalizing), studying reports on research results, and studying the research as a whole.

The data is primarily the propositions of the theory and of the research. There are two essential methods of data collection in scientific theoretical research: surveying and document (content) analysis. Surveying has specific forms of the non-directed interview-from consultations to peer reviews and informal conversations, including forms of discussion. The content analysis of documents primarily has the form of qualitative analysis, but does not exclude quantitative analysis either. If this is correct, then the results that research has arrived at by all, or by any, of the data collection methods are encompassed, and so it can be considered that theoretical research indirectly uses all methods of data collection.

The open question remains as to how theoretical scientific research through logical deliberation without data collection takes place. The very posing of the question orients us to two sub-questions: first, does not this deliberation take place by using previously collected data encompassed in one's personal knowledge; second, does it not take place simultaneously, through unorganized and unsystematic observations that have not been constituted into a method? With this, we do not dispute inspiration, giftedness-or even chance, but the question remains about the source of the information and its basis.

It is true that the authors of works in the field of methodology have dealt little, and some not at all, with the methodological problems of theoretical research. (Termiz, Dž. et al.: Methodological Problems of Scientific-Theoretical Research, pp. 47-58, International Thematic Collection Applied Research, 2021).

4. The Most Frequently Applied Methods of Data Collection in the Research of Social Phenomena

By the frequency and prevalence of the application of data collection methods in scientific research of society and social phenomena, we can reliably establish the following order: (1) document (content) analysis; (2) surveying; (3) observation; (4) experiment-more precisely, quasi-experiments; (5) case study; and (6) the biographical method. However, we will present these methods in a logical order according to the criterion of the directness of their relationship with reality in the process of cognition.

4.1. Observation

Observation [8)] is a method of data collection by direct sensory noticing-perception. However, this definition should not be taken literally for two reasons: first, observation does not favor any single sense-neither the sense of sight nor the sense of hearing, but both senses together through which a certain manifestation of a phenomenon can be recorded. That consciousness, not just the senses, participates in this perception-noticing, is understood, and so it is really a matter of *conscious perception-noticing*; second, observation does not exclude all types of mediation either (although direct sensory perception-noticing is insisted upon). Three types of mediation are tolerated: a) mediation by technical devices-instruments that enhance the capabilities of the human senses; b) mediation by the observer-the researcher during the observation of mass phenomena; c) mediation by the subjectivity of the observer-the researcher who is conducting the observation.

The subject of observation can be: for *direct* observation, only current phenomena during the time of their occurrence, and only their manifestation; for *indirect* observation, past social phenomena through-by means of-preserved cultural creations. For example, various objects, buildings, paintings, sculptures, etc., can be observed, and through them, knowledge about the past can be gained.

The method of observation has several forms which primarily depend on the subject and the norms of behavior of the observer in the research.

The first, noticeable criterion for classifying observation is the use of *technical aids*, and so we can state:

(1) observation without the use of technical aids, i.e., natural observation;

(2) observation with the use of technical aids that support the sensory powers of the observer (e.g., binoculars, a spyglass, etc.). Although technical means are used, the actual recording is done by the senses;

(3) observation with the intensive use of technical means, that is, recording by means of them, e.g., ascertaining the temperature with a thermometer.

The second criterion is the *directness of participation in the observation*. On this basis, it is common to distinguish:

(1) observation with participation-in which the observer in a certain way conducts the observation and simultaneously participates in the event;

(2) observation with presence-in which the observer is present at the occurrence of the phenomenon and observes it;

(3) observation without the presence of a specific researcher.

This classification does not completely coincide with the usual classifications by the criterion of the observer's role. The classification by that criterion is widely accepted and established:

(1) the *complete participant*-the observer is in the same position as all members of the observed group, regularly performs all tasks and carries out obligations, and observation is an additional obligation

for them. Two situations are possible: a) that a specific member of the group is engaged as an observer; b) that an observer is inserted into the group. Both situations have advantages and disadvantages;

(2) the *participant-as-observer*-is also a member of the observed group who carries out current obligations, but they are a member of the group to whom observation has been entrusted with the consent of the other group members;

(3) the *observer-as-participant*-is somewhat freer in movement, and the performance of their obligations is to a certain extent adapted to the possibilities of carrying out the role of an observer.

We consider these three types of observer roles to be a feature of participation, and thus we classify such observations as observation with participation in: a) the observation, b) the occurrence of the phenomenon;

(4) the *complete observer*-as a rule, is not a member of the observed group and does not participate in the occurrence of the phenomenon, but is present at it, while participating in the observation;

(5) the *scientific observer*-is a specific form of the complete observer-a researcher whom the group has accepted as a researcher. In this case as well, it is a matter of presence, not participation, although specific experimental situations can also arise.

We also mentioned observation without participation and presence. This primarily refers to *observation by means of technical devices*.

All observations are generally divided into:

(1) synthetic (complex) observation, whose subject is a complex and long-term phenomenon, such as, for example, a human settlement. The research project is very flexible; "sequential analysis" and "quasi-statistical data organization" are done in phases in order to discover potential gaps;

(2) direct observation-with participation in or presence at the phenomenon;

(3) mass observation-the observation of mass phenomena with the engagement of multiple observers;

(4) the study of individual cases.

To the presented classification, *self-observation* should also be added, whatever disputes may exist about its scientific-cognitive value. Namely, every personal experience also contains elements of self-observation, which is further reflected through the comprehensive behavior of the subject.

In the social sciences, there is a dual attitude towards observation as a method. On the one hand, the literature emphasizes the scientific-cognitive value, the penetrative power, and the reliability of the knowledge that can be acquired by the method of observation. On the other hand, in the practice of scientific research, this method is relatively rarely applied. The reason for the rare application of the method of observation is the significant difficulties in its scientific-research application.

The essential difficulties in applying the method of observation are:

(1) difficulties in the conceptualization and design of the research due to the difficulty of predicting the occurrence of some social phenomena. Some long-term and slowly changing social phenomena cannot be the subject of a proper procedure of conceptualization and design. However, some suddenly occurring and short-term phenomena are difficult to predict and to organize research for.

However, some social phenomena are fundamentally repeated in certain predictable periods: marriage, new additions to the family, schooling, employment, work, material and spiritual creation, politics, law, the value system, wars, natural disasters, destruction, poverty, wealth, action and behavior, etc., are phenomena that are constantly repeated, that is, they occur in succession and continuously, so their research can be organized and designed in advance.

However, in the social sciences, observation is not a sufficient method for researching the future of society. Besides that, attitudes, moods, ideas, etc., cannot be reliably discovered with it, which has a restrictive effect on the possibilities of observation;

(2) the limited perceptual field of the researcher is another restrictive aspect of the method of observation;

(3) the subordination of the rhythm of the research to the rhythm of the occurrence of the phenomenon being observed;

(4) the complexity of social phenomena and the simultaneous, diverse manifestations of phenomena in different places;

(5) the unevenness and absence of regularity in the occurrence of certain phenomena, and the diversity of their forms and contents;

(6) in addition to the mentioned factual difficulties, certain material-financial and personnel difficulties also arise;

(7) certain methodological shortcomings also appear as a significant hindrance, among which the most significant are considered to be:

a) the method of observation is insufficiently studied, and so the theoretical knowledge about the various forms and contents of the relationship between the research subject and the method of observation in its various forms has not been developed;

b) the typology of behavior in diverse situations and in the performance of various social roles is insufficiently detailed and insufficiently concretely described and developed;

c) the insufficient concreteness of operational concepts and terms, which makes it difficult to determine indicators and their meaning;

d) the underdevelopment of methods for forming a time-space sample, that is, the samples needed for researching long-term and dispersive phenomena;

e) the rules for the work of observers and the ways of their training are insufficiently tested and insufficiently developed.

The presented difficulties and shortcomings warn that not all research subjects nor all forms of observation are equally suitable in all cases of scientific research. So far, the evident views are that small groups are more suitable than large or mass phenomena; that decision-making processes and work processes are more suitable than other less directly manifested ones; that certain individual, group, and small community (e.g., family) behaviors are more suitable subjects than the behaviors of national, religious, or other large communities.

In addition to all the enumerated difficulties, there is also one permanent one, characteristic for the application of all methods. This is the attitude of the observed towards the observation, their consent, and their behavior during the observation.

Because of the difficulties and weaknesses in the application of the method of observation, we will not abandon its use, but will try to reduce and overcome them. So far, the following ways are known:

(1) through theoretical study and research of the results of other studies, an effort is made to discover and identify phenomena that are repeated or are continuous, their contents and forms, time periods, and other properties, as well as their causes and foundations;

(2) on that basis, to create possible models of typical research projects in which typical events and behaviors will be incorporated;

(3) to build a network of relatively permanent collaborators-observers who are educated and trained to notice the essential characteristics of what is being observed and to understand, interpret, and evaluate what is noticed in an approximately same way;

(4) for the observation of certain phenomena whose currency and significance are predicted as probable, to form a plan of desirable and possible observation posts and to define their characteristics;

(5) to prepare the necessary forms for recording, and if the conditions for that do not exist, to create framework-orientational-forms, and to determine the technical means that will be used;

(6) to determine observer pairs for the observation posts, to get them to work together well, and to train them to use the forms and technical means;

(7) to elaborate a procedure for harmonizing the views of the field observers about what was noticed;

(8) to elaborate a procedure and criteria for evaluating the data;

(9) to establish the general dynamics of creating the sequential analysis and to train the associates;

(10) to foresee a system of permanent control, replacement of observation posts, replacement of technical aids and observers;

(11) to foresee an efficient information system.

Sequential analysis is of enormous importance and it should be carried out in the shortest possible time periods, sometimes even for periods shorter than one hour. This analysis is a systematic cumulative control and an orientation for further work.

It is understandable that for all of this, it is necessary to secure the needed resources.

4.2. Surveying

Surveying is a very complex and favored method of direct and simultaneously indirect data collection about social reality and from it. In the literature, we encounter assertions that it is realized through "verbal provocation and the response to it." We would rather not use the word "provocation" due to its possible pejorative meaning, and we also avoid the word "response-reaction." The actual fact is that surveying is realized by asking a clear and meaningful question to a respondent who answers consciously and of their own free will. This essential characteristic of surveying-by asking a question (as the term *questioning/surveying* suggests) and receiving an answer in an intentionally established social relationship between the surveyor and the respondent-applies to all forms and types of surveying.[9)]

There are multiple forms and types of surveying.

According to the function of the surveying, we will distinguish scientific surveying from other types of surveying. According to the manner of the surveyor's work, or more accurately, the general conception, we distinguish between gentle, neutral, and harsh surveying, both in terms of the conception, strategy, and behavior of the surveyor and the manner and intensity of the respondent's cooperation, as well as the suitability of the forms and techniques of surveying.

Gentle surveying is based on a strategy of bringing the respondent as close as possible to the surveyor, creating a situation of intimacy and trust between the respondent and the surveyor, which allows the respondent to speak truthfully about everything. The role of the surveyor is to *lead* the respondent to believe and confide in them. The question of to what extent, and whether, this is moral behavior remains open. It must, however, be pointed out that it is forbidden to bribe the respondent, deceive them with false promises, persuade them, or directly or indirectly suggest the desired answer. The respondent must not be misled. On the contrary, it is necessary to point out the value of truthfulness and sincerity. The essential advantage of gentle surveying is its greater penetrative power than other types of surveying, due to the significant reduction of psychological barriers. A significant disadvantage of this type of research is the need for highly qualified surveyors, a large expenditure of time, and, as a rule, a primary orientation towards the non-directed interview, which is difficult to process.

Neutral surveying implies a professional, correct relationship with the respondent. However, at the beginning of the survey, when obtaining consent for cooperation, one may in practice encounter behavior from the surveyor that was closer to gentle than to neutral surveying. Correctness implies polite behavior from the surveyor, a clear communication of the questions, avoidance of any suggestion of answers, refraining from comments, mimicry, or gestures that could negatively affect the respondent, a readiness to briefly explain a question, etc. Correct behavior does not mean indifferent behavior; on the contrary, showing interest is a necessary stimulation. The surveyor records the answer they receive without changing it or discussing it.

Harsh surveying is very rarely used in the scientific research of social phenomena and only with the special consent of the respondent after negotiations about what kind of surveying is actually involved. This type of surveying has the characteristics of psychological pressure, of a cross-examination in the police or court, sometimes with multiple surveyors, pointing out illogicalities and inaccuracies in the answers, repeating questions multiple times, an extended duration of the survey, etc. The formal differences between harsh and gentle surveying do not eliminate their common feature: the tendency to remove the psychological barrier. Another common feature of gentle and harsh surveying is the prioritization of the non-directed interview.

The criterion for distinguishing between *direct* and *indirect surveying* is also the *manner of the surveyor's work*, but also the *strategy of the survey*.

Direct surveying is that in which a direct relationship is established between the surveyor and the respondent and in which the respondent is asked questions that relate directly to the research subject.

Indirect surveying can have two meanings. First, the respondent is put in a situation to give statements about the research subject with which they are not familiar and for which they have not given consent to participate in the survey. The second meaning is narrower, and it implies asking "indirect" questions that do not relate directly to the research subject, but through which an attitude about the research subject can be known. Indirect surveying is rare in science, although a few indirect questions are used in surveys.[10)]

Individual surveys (one respondent - one surveyor in communication) are the most common, but there are also *group surveys* (several respondents and one or several surveyors) and *collective surveys* (one community gives a common answer).

We can also distinguish between *oral*, *written*, and *combined surveying*.

Oral surveying is any in which the surveyor directly asks questions orally and the respondent also answers them orally. If such surveying is conducted through direct personal communication between the respondent and the surveyor, it can be the most penetrating and most successful. With the development of technology, this type of surveying has begun to be modified. The first modification is the so-called "telephone survey" (although it is actually an interview), then came surveys by means of cassette tapes, and today surveys are realized using computers and the internet or related systems. However, oral "tête-à-tête" (face-to-face) direct individual interviewing remains the most penetrating and most productive. Only the personal engagement of the interviewer/surveyor ensures the proper realization of the chosen sample.

Written surveying implies asking questions and giving answers in written form and belongs to the types of surveying with the most limitations due to the habits, literacy, and inclinations of the respondents. However, one variant can be successful. If the surveyor in the first round distributes forms with questions and spaces for answers with the announcement that they will return for the completed forms after a certain time, the exact profile of the answer provider may not be known, and the sample also suffers from attrition.

Combined surveying has not yet gained the status of a valid scientific survey method. It is more often used for media, radio, and TV surveys. The medium broadcasts a question (or questions) orally (TV can also do it in a combined way), and the listeners/viewers answer with written correspondence.

Here too, variants using various technical means are possible, but as this is not a verified method in the social sciences, we will not dwell on it.

For research using the surveying method, it is important to distinguish between the survey questionnaire and the interview, which we consider the basic techniques of surveying.

In jargon, and even in the language of science, the term survey questionnaire is used to name any survey based on a certain number of units from a population. However, in the methodology of the social sciences, these two types of surveying techniques are distinguished by the following characteristics:

(1) The *survey questionnaire*, as a rule, uses a survey questionnaire as its instrument, which is strictly systematized, with strictly defined questions and pre-formulated, offered answers. The surveying is conducted by a surveyor who is most active at the moment of establishing contact with the respondent, while their role is passive thereafter. The surveyor, in the standard meaning of the word, does not even have to be included in the survey questionnaire process;

(2) The *interview* (scientific conversation) is a very complex technique with multiple types,[11)] and the essential difference from the survey questionnaire is the activity and role of the interviewer and the properties of the basis for the conversation. What's more, a type of non-directed, free, etc., interview may not even have a formal form-a basis for the conversation.[12)]

In the further exposition, we will strictly distinguish between the survey questionnaire and the interview, although they have much in common. Thus, both the survey questionnaire and the interview are fundamentally based on communication through questions and answers between the surveyor and the respondent, in both cases a certain social relationship is established and realized, and in both cases, there is a basic plan for asking questions and developing a strategy for obtaining answers.

In fact, it is a matter of two strategies: a) *logical*[13)] and b) *psychological*,[14)] that is, a strategy for formulating the questions, their order, number, and grouping into wholes, their complexity and difficulty, etc., and a strategy for establishing contact with the respondent, the place of the conversation and the choice of the environment, the appearance and behavior of the surveyor, etc.

The *logical strategy* appears in *three basic variants* and *two sub-variants*. These are: the *funnel model* (the regular and the inverted funnel), the *battery model*, and the *polydeterministic model*.

The *regular funnel model* implies beginning the survey by asking the broadest, general questions, which we can define as *stimulative*, in order to gradually arrive at the narrowest and, in fact, the most concrete and most significant questions in the further course of the survey.

The *inverted funnel* has the opposite course. It begins with the most concrete questions, and then follows with questions that ask for "situational data," explanation, proof, and description.

The funnel model and its variants are differently suited to various social sciences and various research topics, just as they are not equally suited to all types of surveying nor to all techniques and their models.

The *battery model* is often and intuitively applied in practice, which is why we encounter it most often. The concept of this model is simple: there is one complex, essential question-which may or may not be asked directly, but in connection with it, several interconnected questions are asked whose answers collectively provide the answer to the central question. In one instrument, we can have multiple batteries of questions.

The *polydeterministic model of logical strategy* is essentially a combination of the previous two models and is the most difficult to conceptualize and apply in the creation of a "questionnaire" or a "basis for conversation." We do not have enough scientifically verified arguments to confirm its greater penetrative power and efficiency, but the application of this strategy breaks the monotony and requires changes in the rhythm of the survey, which contributes to the attention of both the surveyor and the respondent.

Surveying, as we have shown, is realized through the asking (systematic, goal-oriented, selective, etc.) of questions and the recording of meaningful answers. Questions and answers have various roles in the instrument and various properties.

Let us first consider the structure of a question. Every question consists of a *base* and a *weft*. The base is most often initiated-implied-by the proposition of a special hypothesis, and in rarer cases, the weft is either the elaboration of one indicator or a set of several indicators. If the general indicator is a statement, then the weft can contain various modalities of the statement according to various features, most often by the features of content and form. Therefore, the *base of the question* is the interrogative statement with which we address the respondent, and the weft is the foreseen modalities of the answer-including the space for entering the answer. Every question is also technically arranged in a certain way (numbering, print, markings, etc.).

Now we can give a definition of a question in a surveying instrument: *"a question is a written expression, a thought-conceptual and terminological* *construction by which the surveyor initiates and stimulates the verbal statement of the respondent in connection with the research subject."*

We can classify questions according to many criteria, but we will first consider *questions by their various properties.*

Questions with open and closed answers are most often mentioned. By open answers, we mean answers that the respondent creates and formulates themselves. By closed answers, we mean answers that the surveyor has formulated in advance, and the respondent becomes acquainted with them and chooses one (or more of them-depending on the surveyor's requirement) of the offered answers.

Besides closed answers, it is justified to also pay attention to "closed questions." The *closed nature of a question* is not that it necessarily requires closed answers. We consider closed questions to be those that cannot be interpreted to the respondent, but must be asked with the same words with which the question was formulated and with the same form of statement. A question posed in this way can require a decisive answer, whether the respondent chooses it from among the offered ones or creates it themselves.

Complexity is a constant criterion of the characteristics of questions. S. Milosavljević and I. Radosavljević, in the book: "Fundamentals of the Methodology of Political Sciences", Belgrade, 2000, pp. 512-518, give the following developed classification of questions:

A) *by complexity*: a) simple, which are based on only one interrogative statement; b) complex multi-layered questions, in whose content are found, within the same thematic provision, various degrees of knowledge about the research subject which is demonstrated through the choice of the modality of the answer;

B) *by independence*: a) independent questions-which can be asked independently of other questions, and whose answers are not conditioned by the answers to other questions; b) dependent continuous questions, which can only be asked if the previous question was answered in a certain way; c) dependent conditional questions, which can only be asked if the answer to the previous question has the required content; d) dependent linked questions, which have sense and meaning only within a battery of questions, only in connection with other questions;

C) *by objectivity*: a) objective-neutral; b) biased; c) manipulative questions;

D) *by subject matter*: a) objective reality; b) social reality; c) intellectual and psychic reality;

E) *by orientation*: a) past, present, future; b) hypothetical possibility;

F) *by the properties of the propositions*: a) factual propositions; b) value propositions; c) factual judgments; d) value judgments; e) conclusion; f) concepts, etc.

G) *by degree of originality*: a) authentic questions; b) questions derived from others; c) artificial constructions; d) arbitrary questions;

H) *by the formulation of the question's base*: a) strict; b) narrative-interpretive; c) orientational; d) free.

From the standpoint of *functions*, questions can be:

A) by *the basic relationship to the truthfulness of the answer*: a) well-founded impartial questions; b) suggestive questions-which suggest an answer; c) projective questions-which require a projection, a prediction from the respondent; d) hypothetical questions, which require imagining a possibility;

B) by *the role of the question*, we find: a) basic questions, which are unavoidable because they relate to the essential characteristics of the research subject; b) general questions, which are in fact situational and are broader than the basic ones; c) parallel questions, which appear in complex projects and research subjects; d) auxiliary questions, which contribute to connecting, clarifying, conceptualizing, etc., the basic questions; e) control questions, by which the truthfulness of the answers is ensured;

C) by the same criterion in the instrument, we have: a) working questions, by which we obtain answers about the essential characteristics of the research; b) introductory or preparatory questions, which contribute to the atmosphere in which the survey is conducted; c) linking questions, by which the preceding and following questions are connected; d) transitional questions, which enable the transition from one battery to another; e) break and rest questions, which allow for the regeneration of the respondent's powers and patience;

D) by *the criterion of the content* that is required in the base and weft from the respondent, we can identify the following questions: a) current questions, which ask for a competent answer about the contemporary; b) reconstructive questions, which ask the respondent, based on knowledge and memory, to give an answer about the near or distant past; c) comparative questions, which require a statement about similarities and differences; d) prognostic-projective questions, which ask for an answer about expectations and predictions; e) questions of evaluation and assessment, in which an answer is sought by which something is valued, evaluated, or assessed;

E) by the required *psychological effort*, questions can be: a) difficult, with great mental strain in understanding the question and expressing the answer. These questions also include delicate ones, which cause emotional tension, feelings of discomfort, or fear of giving a truthful answer; b) average, usual ones that can be answered with already common standards; c) easy questions, which have already been answered multiple times or even daily-such as questions about occupation, age, and the like. Connected with the psychological effort is also the type, content, and orientation of the engagement, so we have questions of: a) memory, which require that memory be incorporated into the answer; b) recognition, which require identification; c) conviction or belief, which require the expression of a constituted conviction-belief-if one exists; d) choice, for which it is necessary to form a commitment; e) construction, creation, in which the answer must be composed of multiple factors.[15)]

Here we have listed only the basic types of questions with which we are met in all surveys. In methodology, there is no generally accepted classification of questions, and there are few scientists-methodologists-who study this complex, significant set of problems.

The content itself, the form of the statement, and the technical (graphic) organization is still not a survey. The questions in every survey are posed to the respondent, and this is still done with a certain tone. The tone of the survey is a complex combination of the content and form of the question and the manner of addressing and expressing the question; it is the voice and emphasis, the mimicry and gesture in the communication with the respondent. A *stimulating* tone (which encourages the respondent to give valid answers) is clearly distinguished from, in contrast to it, a *destimulating* tone (which discourages the respondent and strengthens their psychological barriers). Both tones appear in multiple variants.

Thus, the stimulating tone appears in the following gradations: a) a tone of neutral attention; b) a tone of interest in the statement; c) a tone of benevolence, sympathy, and respect; d) a guiding tone with a demonstration of readiness to help; e) an insistent, directly stimulating and encouraging tone; f) a calming tone.

The most common variants of the destimulating tone are: a) a provocative, challenging tone; b) an aggressive, condescending tone; c) a threatening tone, a tone of pressure on the respondent; d) an arrogant, haughty tone, and similar tones whose variations are numerous, but very harmful. In the practice of research, perhaps the most widespread is the tone of "indifferent" or "uninterested correctness" and "apparent benevolence."

Further general considerations on the topic of the tone of communication in a survey are not necessary, as the best knowledge about it is acquired in research practice.

Everything presented above refers to all types of surveying, although not equally. There are three main techniques of surveying, and each of them has its specificities: the survey questionnaire, the interview, and the test.

1) Specifics of the Survey Questionnaire

The survey questionnaire is, as we have said, an important technique of the surveying method.[16)] Its subject is, as a rule, mass phenomena, and so it is very connected with the statistical general scientific method. Its characteristics are: systematicity, relative brevity, and economy. Systematicity is ensured by very responsible work on the conceptualization and design of the research. In that process, pronounced attention is paid to the operationalization of the research subject, the hypotheses, the indicators, the questionnaire, the formation of the sample, and the training of the surveyors.

By choosing a sufficiently large and socially and statistically representative sample composed of competent respondents, an essential precondition for a successful survey questionnaire and true knowledge is ensured. By choosing and properly operationalizing the subject, it is made possible for the respondents to answer truthfully. Truthfulness here has two meanings: first, that the respondents express their attitude, knowledge, or feeling truthfully, without concealment; second, that their statement, in addition to being subjectively true, is also objectively true. In principle, any subject of the social sciences can be surveyed with a survey questionnaire, but not every subject is equally suitable for being surveyed with a survey questionnaire. As a rule, more subtle problems and research subjects are less suitable than simpler ones and those that do not delve into a person's intimacy. However, the subject of a survey questionnaire can also be individual phenomena. In social practice, various "forms" are filled out daily for the purpose of record-keeping, which is a form of surveying, but is not scientific research.

A detailed elaboration of the hypotheses and indicators enables us to create an applicable and penetrating questionnaire. If the survey questionnaire is a logical and functional system of understandable, formalized questions, with a strict relationship to the research subject and with foreseen, possible, and also formalized essential answers, then every answer must contain knowledge about the indicator and communicate a relationship to the proposition of the hypothesis.

A high degree of formalization ensures the speed and cost-effectiveness of a survey. For this reason, there is an effort to create a standardized survey questionnaire. The integral parts of such a questionnaire are: (1) signature (names and symbols) of the research title; (2) sequential number of the location/respondent, which indicates the territory, survey location, and sample realization; (3) interviewer's identifier and, if applicable, the date of the survey.

The second part consists of the system of questions (the warp and weft) and graphical (technical) solutions. The third part includes the interviewer's notes.

Questions are, as a rule, closed, meaning the goal is a short and clear formulation of questions that are used in a given format during the survey.

The goal is also to have a small number of closed answers proposed to the respondent, so they can select the one(s) that express their opinion or behavior. The most common answers are yes, no, I don't know, or I don't want to answer this question. In some cases, a list of names, titles, or scales are offered, and the answer can be given by circling the sequential number of the question or by writing it in the designated box. The processing of the questionnaire-counting the answers-is the reason why all questions are numbered, the answer modalities are also numbered, and the numbers of the corresponding answer modalities are entered into the designated "boxes." Exceptionally, in some surveys, a space is provided for an open answer if none of the offered answers suits the respondent, but they still have a valid response.

Surveys are generally divided into *oral* and *written*. Oral surveys are those where the interviewer verbally asks the questions and enters the answers into the questionnaire. This is a more efficient and penetrating method of surveying. Although the principle is for the interviewer to be as minimally active as possible, in some cases, they can clarify the question for the respondent or help them with the phrasing of their statement. Still, it's best for this not to happen. The interviewer's role is to establish contact with the respondent, create an atmosphere conducive to cooperation, get answers to all questions, and enter them correctly into the questionnaire.

Written surveys are those where the respondent is sent forms (e.g., by mail-a "postal survey"), and the respondent themselves enters the answers. This type of surveying is less productive for many reasons, most often cultural and traditional. Achieving a representative sample is not ensured even by including a pre-stamped, self-addressed envelope for returning the completed questionnaire. A second variant of the written survey is more successful. In it, the interviewer distributes the questionnaires to the respondents and arranges a time to come back and collect them. This way, they encourage the completion of the questionnaire, and can also intervene during collection.

With the development of technology and electronics, and the fact that almost everyone has a phone (at least a mobile one), that every family has a radio and television, and that many (and probably soon every family will) have a computer and an internet connection, surveying techniques can and must change significantly. Instead of paper and pencil and direct personal contact, our means of communication will be a computer and the internet-adapted for the purpose.

This, of course, is not just a question of the survey but of surveying as a method, so it requires special consideration.

The penetration of a survey is less than that of an interview due to its closed questions and answers and the very limited authority and tasks of the interviewer. The interviewer is not required to create but to conscientiously and responsibly execute orders and follow instructions.

The most common and most successful are individual, anonymous surveys. Anonymity protects the privacy of the respondent. However, anonymity can only be achieved with a truly honest approach and genuine discretion on the part of the researcher. This is easy to violate by marking the questionnaires, given that there is a record of the sample.

Here we have briefly outlined the standardization of the classical survey, which we can use as the sole surveying technique within a research project or simultaneously with other methods and techniques. However, at the modern level of digital techniques, surveying is possible using them. For example, a permanent survey via the Internet is possible, but it does not ensure representativeness.

The principles and provisions presented have lasting importance.

2) *The Specifics of the Interview*

The interview is a much more penetrating, diverse, and less formalized technique, which means certain types of interviews are significantly more expensive, require more educated and trained research personnel, and data processing is more difficult. Moreover, an interview can be suited for any type of investigation, unlike a survey, which is best for neutral investigation. The interviewer's role is much more complex and responsible, as their task is to encourage, interpret, guide, and enliven the scientific conversation throughout the interview, without deviating from the basic concept, content, and goals of the investigation. The research subject of an interview can be maximally complex.

All the rules regarding the conceptualization and development of a research project mentioned for surveys also apply to interviews, so we will not repeat them.

The most important types of interviews are: (1) *directed, orientation interview* and (2) *non-directed, free interview*, with (3) *guided* and (4) *in-depth* interviews also being mentioned. There is also a classification based on the number of respondents and interviewers, which includes: *individual, group, and collective* interviews-which have already been discussed. *Written* and *oral* interviews are also mentioned.

The written interview is relatively rarely used and is typically employed when interviewing very busy and hard-to-reach public, prominent, and influential figures, as well as those whose health condition does not allow for direct communication. After a prior agreement, such respondents are provided with a list of questions (of varying degrees of specificity) with a request to answer them within an acceptable deadline. The disadvantages of this interview are quite significant, and the main ones are: (1) a relatively small number of questions can be asked; (2) questions (and answers) cannot be specified or clarified during the interview; (3) it is not possible to ensure that all questions will be answered; (4) the answers can be generalized, principled-"diplomatic"; (5) the answers may not be the respondent's original opinion but a product of consultation, etc. For these reasons, except in exceptional cases (e.g., due to distance), the written interview is avoided, and the oral interview is preferred. The results obtained from a written interview cannot be processed and used without applying content analysis.

The most frequently used interview is the *directed orientation interview*. Based on the research project, a general conception and strategy for the research (psychological and logical) are first developed. Then, the instrument, called the "basis for scientific conversation," is created. The "basis for scientific conversation" is formally similar to a "survey questionnaire," but the fundamental difference is as follows: (a) the basis for the questions is formulated clearly and specifically, but it does not have to be simple and can express a connection with other questions. It is not required that the question be asked in the given formulation, although the goal is to make that possible; (b) although the questions are numbered and arranged according to the requirements of the logical strategy, it is not required that they be asked in the order given in the form, except in certain cases; (c) the modalities of the answers do not have to be foreseen and formulated because they are not "offered" to the respondent. Practice and the requirements of cost-effectiveness always dictate that possible, probable answers are still anticipated and formulated. The basis for their formulation is theoretical knowledge of the research subject and the results of related research. Along with the content-specific and formulated modalities, a modality like "Something else. What?" is also provided, which allows for the entry of a statement that cannot be correctly categorized under any of the foreseen modalities. The tasks of the interviewer in conducting this interview, in addition to the generally usual ones, are: a) to identify the true meaning of the answer; b) to correctly categorize it under the foreseen modality and to enter them as adequately as possible into the designated column.

The advantage of this type of interview is that the pre-planned questions and answer modalities provide a solid orientation for the interviewer and the respondent, enable basic data processing planning, shorten the required time for surveying and data processing, and make them cheaper. The disadvantage is the requirement for very skilled and trained interviewers, which is difficult to achieve without a permanent interviewer-surveyor network.

Another, more frequently used interview is the *non-directed, free interview*. The name of this interview is misleading, except if it is conducted as part of the orientation and preparation for a research project on a completely unknown problem and subject. The content of the interview is determined by the subject, goals, hypotheses, and indicators, and if the necessary data are not obtained through the interview, then it is a failed, not a free, interview. The name "non-directed - free" is associated with the absence of the requirement to necessarily create a form-an instrument on the basis of which the conversation will be conducted. However, previous research experience recommends creating a conversation memo and a response recording form. The conversation memo is a simple overview of the basic questions that should be asked, without the modalities of possible answers. That is, the questions are the working thematic basis that is elaborated during the conversation depending on the respondent's statements, so it is not justified to anticipate possible answers. It is advisable to group these basic working questions, and it is also advisable to foresee possible groups of thematically related answers for easier entry into the recording form. The recording form is only necessary when the conversation is not being recorded by some technical device.

The non-directed interview is best suited for mild investigation, but also for neutral and sharp investigations. Moreover, during this interview, it is possible to transition from one type of investigation to another. Thus, the interview can take the form of a mild polemic, and can also include milder provisions of sharp investigation (reminding of statements already given, pointing out inconsistencies, communicating counterarguments, etc.).

There is no more penetrating interview than the non-directed one. The so-called *in-depth interview* is a non-directed one with a special emphasis on certain content and repeated returns to it with multifaceted approaches.

The *guided interview* can be understood in two ways. The first and more common understanding of this interview is as a special variant of the directed orientation interview in which a "funnel" is specially constructed and a poly-deterministic type of strategy is applied, with an insistence on certain content. The second understanding is limiting the creative engagement of the interviewer and insisting on a given order and formulation of questions.

The significant weaknesses of the non-directed - free interview are: a) difficult availability of respondents; b) providing suitable interviewers; c) difficult control of the interview flow; d) relatively difficult to discover the true meaning of the statements; e) complicated data processing.

3) The Specifics of the Test

The test as a method of scientific and expert knowledge cannot be entirely classified as a method of inquiry[17)] Defined as a system of tasks that a given subject should successfully solve or perform, it cannot be reduced only to verbal tasks and their verbal solution. On the contrary, some tests require performing tasks through specific physical actions and certain effects in time and space, the creation of an object, etc. Some tests are not directly applied in the study of social phenomena at all (e.g., tests of psychomotor reactions, tests of strength, endurance, etc.). In the social sciences, the most significant and most developed are knowledge tests in various modifications. Essentially, a test is generally used to determine a baseline state and a change that occurred after an intervention. Only tests whose tasks are presented verbally, visually, or auditorily and which are solved with verbal statements belong to the category of "inquiry." However, there are also tests whose solutions are recorded through observation or an experiment.

A test is also suitable for examining ideological orientation, the adoption of a value-oriented system, etc. At the same time, a test is also a form of measurement.

The test instrument is a specially constructed form with an overview of the tasks the subject must fulfill. These requirements are most often expressed as: (1) questions that need to be answered; (2) questions that require marking one of the offered answers as correct. A third question arises for us: How close or distant is an experiment in the social sciences to testing? A test's task of performing a certain task within a given time (making a certain object, covering a certain distance, lifting a certain weight, doing a certain number of push-ups, etc.) has essential test components-except perhaps for the direct management of the process that unfolds during the task's execution; (3) an offered statement that needs to be completed; (4) multiple statements that need to be arranged according to a given criterion; (5) a requirement to construct a statement on a specific topic, etc.

An important part of the test instrument that is not shown to the tested subjects is the test key, which contains: the test's concept and rules; correct answers; the values of solutions and errors; and instructions for conducting the test. Tests can be conceptualized based on positive evaluation of errors or on a combined evaluation system.

The complexity of creating a test key requires researchers with a special skill set, so a true test is not frequently used in inquiry. Ensuring the test's variability, discriminability, etc., and a strict distinction between attitudes (which are obtained through surveys and interviews) and answers-the functional solutions to a task that are evaluated-cause many researchers to give up on tests.

In some areas of art (e.g., music), as well as in some other areas of skills and abilities, a statement says almost nothing. The fact that someone claims to play an instrument excellently is not necessarily true. A test is irreplaceable here, and the respondent's task is to play a melody on a certain instrument whose performance will be evaluated by competent subjects. So, not all tests are the same, and not all keys and tasks in tests are the same. Knowledge tests can be used by any expert (with the help of a methodologist) as skill tests. The notion that psychologists have a monopoly on tests is incorrect.

4.3. The Experiment

The classical definition of an experiment essentially states:

An experiment is a method in which an artificial, experimental factor creates an experimental situation that is purposefully managed, and based on whose results, key knowledge is formed.[18)] This is, in fact, according to the current understanding, a laboratory experiment.

This definition raises two key questions: 1) Is the experimental method possible in the social sciences? 2) Can an experiment be considered a method of data collection?

We agree with M. Vujović that "life is one great natural experiment..." as well as that "social phenomena are not easy or desirable to artificially induce (war, revolution, crime, marriage, demonstrations, strikes...) ... we can observe those that have already occurred under certain conditions." He defines an experiment as: "so an experiment is called any research in which a certain phenomenon is studied under controlled conditions, regardless of how it originated, naturally or artificially..." (p. 83). The answer to the first question is clear: a scientific experiment is possible and desirable in the social sciences, although it cannot be equated in all respects with an experiment in the natural sciences.[19)] But even in the natural sciences, a single type of experiment is not possible due to significant differences between inanimate matter and living beings. In society, phenomena that constantly repeat themselves and whose essential conditions we create and on which we intentionally and purposefully influence every day also occur. These phenomena are suitable for a laboratory experiment. The best examples of this are educational and boarding institutions, the military, youth camps, nursing homes, sports organizations, and some healthcare institutions. The most difficult problems of a social experiment to solve are: a) the non-repeatability of the phenomenon under completely identical conditions with completely identical subjects and b) isolation from the influence of unwanted conditions. Let's remember: it is necessary to distinguish between the repeatability of a phenomenon and the repeatability and variability (invariability of the subject as a factor of the phenomenon); it is also necessary to distinguish between essential factors and influences from non-essential ones-from the perspective of the research subject.

The conclusion is that an experiment in general, and a laboratory one in particular, is not nearly equally suitable for research in all sciences that are classified as social sciences, just as it is not equally suitable for researching all research subjects.

The question of whether the experimental method can be classified as a method of data collection was answered at the beginning of the fourth chapter of this section.

As a general rule for the application of an experiment, we can adopt the rule that the possibility of using an experiment in scientific research of social processes and phenomena is conditioned by: the nature of the phenomenon and the research subject, the development of theory (especially scientific laws and essential provisions of the phenomenon) and the methodology of certain sciences, and the ethical aspect. The ethical aspect in experimenting with people, even in the use of people, can still be found in real-life practice today-although this cannot be considered scientific-research experiments.

Everything in the social sciences that is considered an experiment on any basis, and which is not just a strictly controlled study conducted "according to the logic of the experiment," we classify into two main groups: (1) true experiments and (2) quasi-experiments.

True experiments include: A) laboratory experiments and B) experiments in natural conditions.

Quasi-experiments include: A) the natural experiment and B) the ex post facto experiment. To these, some specific contemporary forms of quasi-experiments should be added, such as "simulation," "model," "thought," etc.

An experiment is, by its nature, an exclusively empirical research and knowledge method. This definition brings the term "thought experiment" into question, as it is fundamentally a theoretical procedure. However, its subject can be strictly empirical, and its logic can be experimental.

Let's examine the structure of a true experiment, which can be simple (having only an experimental group but no control group) or complex (with both an experimental and a control group).

The first factor of an experiment is the *experimenter*-the subject or scientist who plans, conducts, and draws conclusions based on the results. The *experimenter's collaborators* are the subjects-the experimenter's assistants with precisely defined roles and functions within the experiment.

The experimental factor is the second key part of the experiment. It can be simple or complex, a real or fictional object, a statement, a sound, a color, a specific person, a particular action or act, an event, etc., depending on the research subject. It could also be the showing of a film, a photograph, a theater play, the reading of a proclamation, and similar things. It can be factual, so its intensity can be manipulated (increased or decreased), etc., or in quasi-experiments, it is simply selected from a set of already-acting factors, independent of the experimenter's will. The effect of such a factor is merely observed.

The third key factor is the *experimental subject*, or the *experimental group*, an individual or, most often, a selected group that is exposed to the action of the experimental factors. The effect of the experimental factor on the experimental group is the reaction of the experimental group, in the form of verbal or real behavior.

A control group is not a mandatory factor in all experiments, but its formation is valid for conducting an experiment in natural conditions or a natural experiment (when possible). It is formed purposefully, and its composition is, in all essential characteristics, as close as possible to the experimental group. An identical composition is not possible because it is not made up of "replicants." This group is protected from the action of the experimental factor, but the behavior of this group is carefully studied so that it can be compared with the behavior of the experimental group.[20)]

The fourth key factor is the *conditions* in which the experiment is conducted. These must ensure the undisturbed execution of the experiment in space and time in accordance with the planned procedure. Among the essential goals of the secured conditions are the protection from the action of unwanted and uncontrolled factors and from the occurrence of "parasitic"-unwanted and unplanned effects.

An experiment is a three-stage process that unfolds through the following stages: preparatory, active work, and consequential. In the first stage, preparations for the experiment are made; in the second, the experimental actions are performed; and in the third, the results are studied, recorded, and used. The second and parts of the third stage are sometimes combined.

It should be noted that an experiment in the social sciences does not have to have only one experimental or one control group. On the contrary, the number of groups depends on the subject and the plan for the experiment.

The experiment as a method of scientific empirical research is a strictly planned and systematic action. Despite this, chance events are not excluded during an experiment. This requires all the more detailed planning that also anticipates situations in which unforeseen events may occur. Since there are short-term and long-term experiments in which both voluntary groups and individuals participate, it is possible for groups to disband or for some social characteristics of individuals to change.

The key components of an experiment's workflow plan are:

(1) Space and Spatial Conditions: The physical environment where the experiment will be conducted.

(2) Timeline: The start and end times of the experiment, including the duration of exposure to the experimental factor, the time for evaluating its effects, and the time allocated for the control group.

(3) Method of Exposure: How the experimental group will be exposed to the experimental factor.

(4) Method of Action and Recording: How the experimental factor will be applied and how its effects will be recorded.

(5) Definition of the Experimental Situation: A clear description of the experimental setup.

(6) Measurement and Recording of Results: The process for measuring and documenting the outcomes of the experiment.

(7) Analysis and Conclusion: Analyzing the results and the experiment's progression to draw conclusions about both the methodological factors and the phenomenon being studied.

(8) Generalization and Theoretical Summarization: generalizing the results and integrating them into a broader theoretical framework.

(9) Potential Application: Considering and proposing possible uses for the results and their eventual implementation.

The plan for a scientific experiment must also incorporate the principles of: a) social sensitivity; b) scientific and social ethics; c) voluntary participation (whose meaning needs to be more precisely defined); and d) the multiple responsibilities of the scientist-experimenter. Every participant in the experiment should be well-informed and aware of the risks they are taking by participating. The experiment plan also includes measures to eliminate disturbances to the normal, usual (natural-social) behavior of the subjects involved.

The described structure of the experimental process and its planning does not apply to the *ex post facto* experiment. In short, this quasi-experiment deals with a past, completed event for which data already exists. This data is collected, adapted, and processed according to the principles of "secondary analysis." If a theoretical model can be constructed from this data, a "model experiment" or "simulation experiment" can be conducted, in which various factors and conditions believed to have significantly influenced the phenomenon (based on sub-stages) are varied. If this is not possible (and it often is), the research remains at the level of a statistical secondary analysis where, depending on the data, certain aspects can be highlighted.

The experiment is not a common or widely accepted method of scientific research in all social sciences. However, it is very well-established in certain fields. There are two main reasons for its limited use: first, the prejudice about the limited possibilities of experiments in social science research, and second, the prejudice that this method is too expensive.

However, some areas of social sciences, such as andragogy and pedagogy, information and communication (especially media), social work, economics, and political science, are very well-suited for using the experiment as a research method.

4.4. The Method of Document (Content) Analysis

In science and methodology, the name *"method of content analysis"* is common, but this name is restrictive and therefore fundamentally inaccurate. Its inaccuracy stems from the fact that certain social sciences acquire scientific knowledge not only and exclusively from the content of a document but also from its form, composition, the material it is made of, etc.

A document can be considered any thing or object that, by its content, form, and composition, can be a source of information. This can be a written text, a drawing, a picture, a sculpture, a musical score, an audio or video recording, etc. It is obvious that this fact does not allow for the usual definition of document (content) analysis as a method that provides mediated data. Namely, written documents are predominantly indirect testimonies, but they are often also unmediated-such as autobiographies. However, some material products of people (buildings, machines, sculptures, parks, devices, etc.) are sources of unmediated data. Therefore, document analysis is a method that uses sources of varying reliability and informativeness-from completely reliable to unreliable. In some social sciences, it is the main, if not the only, method.[21)]

Document (content) analysis is accepted as an empirical research method, but not as a method of data collection. In terms of sensory engagement, it can be considered an auditory, visual, audiovisual, and factual method of knowledge. Nevertheless, the specificity of this method is that it is not only a method of empirical, but also (perhaps even more so) of theoretical research. Without neglecting the role of the senses, with this method, we primarily discover the meaning, significance, and importance of data by reflecting on the content and form of the document. Unlike other data collection methods where we, as in a survey or even an experiment, demand data and it is presented to us upon request, with the procedures of the document analysis method, we discover, define, and select data, where sensory engagement is necessary but only as a supporting role, while the thought process is essential. Therefore, we accept this method as theoretical-empirical.

Some authors classify document analysis as a form of observation (R. Lukić even calls it "observation of documents")[22)]. Others (S. Milosavljević) consider it a specific variant of inquiry because knowledge is gained based on statements (especially in written documents), which is characteristic of inquiry. Since we do indeed discover certain similarities with both the inquiry method and the observation method, and even the experiment, it is appropriate to treat it as a self-contained method.

Every modern scientific investigation begins with the application of this method, as at the very beginning of conceptualization, one turns to the scientific body of work-thus, one approaches its study with the method of document (content) analysis. The research also ends with the creation of a scientific document.

Document (content) analysis has an advantage over other methods in that it allows for research "at a distance," whether it is a matter of temporal or spatial distance, and it is more useful in researching the past than others; more precisely, it is indispensable there.

There are two *techniques of the method of document content analysis*: (1) *qualitative* and (2) *quantitative analysis*. Both investigate what was said and how it was said, and quantitative analysis also reveals how many times it was said. However, this seemingly strict distinction is formal. According to this definition, qualitative analysis also deals with qualitative statements. If the subject of analysis were a statistical report, it is obvious that quantitative analysis would not be concerned with how many times a certain number was used or how many times tables, graphs, etc., were used. The difference between these two techniques is conceptually much more subtle and boils down to the effort to express the dimensions of the subject of analysis in the document's content. This can be seen from the further definitions of these two techniques. Although both investigate text and context; what is said, hinted at, and left unsaid; what the author stated and "what they wanted to say," qualitative analysis is attributed with: (1) being preliminary and temporary in relation to quantitative analysis; (2) being not strict but flexible, relying on impression; (3) serving to form, but not to test, hypotheses; (4) having only an unstandardized record sheet for entering data as an instrument; (5) concluding on the meaning of what was said.

Quantitative analysis is given greater importance and attributed with greater possibilities.[23)] Thus, it is considered: (1) "frequency-based," it also answers the question "how much"; (2) it is systematic; (3) it enables the testing of hypotheses; (4) it requires a strict definition of categories and concepts; (5) it concludes on the meaning and significance of what was said; (6) it requires the creation of complex and systematic instruments: a) a codebook of concepts and codes; b) a systematic, adequate record form. Both are in a functional relationship.

Termiz, Dž. and Milosavljević, S., citing a wider range of literature, provide the following comparison of the properties of qualitative and quantitative methods of document (content) analysis on page 460 of their "Introduction to the Methodology of Political Science":

1. Preliminary reading of the informative material for the purpose of formulating hypotheses and discovering new relationships in contrast to systematic content analysis for the purpose of testing hypotheses.
2. Impressionistic procedure for presenting observations about the properties of the content in contrast to systematic procedure for obtaining precise, objective, and reliable data.
3. Dichotomous attributes, i.e., attributes for which it can only be said that they belong or do not belong to a certain subject in contrast to attributes that allow for exact measurements (i.e., true quantitative variables) or hierarchical ordering (i.e., sequences).
4. "Elastic" procedure for presenting descriptive observations about the content or for "coding" judgments in contrast to "strict" procedure for the same purposes.

The method of document (content) analysis, despite the existence of complete works by our domestic authors (Stojak, Rudi: "The Method of Content Analysis"), still needs to be explored, as there are many important misconceptions and misunderstood possibilities. Thus, the misconception still exists that hypotheses cannot be tested with qualitative analysis, that it is only an "impressionistic procedure," that it is exclusively "preliminary," etc. It can be all of these things, but within the framework of a project, it doesn't have to be. Its role is determined by the research project-specifically, the "research method" section. Thus, it can be the only research method (e.g., when researching the content of a newspaper) or just one of the methods or only an auxiliary method.

The need to research the method of document content analysis is also shown by the many names for it that are in use.

The process of applying document (content) analysis proceeds as follows:

(1) Identify the actual specific subject of document content analysis within the overall research subject.

(2) Identify the hypotheses and indicators with which the application of analysis is in direct conditional relation. These are all indicators that are essentially a statement given in a specific text-either explicitly or implicitly.

(3) Decide between qualitative and quantitative content analysis, or determine which part of the subject-hypotheses-indicators will rely on qualitative, and which on quantitative analysis.

(4) Determine the role of each technique and their mutual relationship in the research process. The role of these two techniques in research and their mutual relationship has been linked to the definitions of direct and indirect analysis. Direct analysis would be one that relates to an already defined research subject and where hypotheses are tested through the analysis. Within scientifically designed research, the analysis is direct even when it has the characteristics of an indirect one (e.g., researching the content of a newspaper or a set of media outlets, etc.). In reality, indirect analysis is one that serves to derive and develop initial hypotheses.

(5) Develop the concept for the application of the analysis, its actual content and scope, and concretize the tasks of the analysis.

(6) Create the analysis instruments.

The procedure for creating the instruments proceeds as follows:

First, it is determined whether instruments are actually needed. If we've opted for a qualitative analysis just to list titles or topics in a newspaper, we don't need to construct any instruments. Simple notepads on which we jot down the issue number or date, the topic name, or the article title are sufficient. If we decide to record a few characteristics of the published articles, we might need a collective or group record sheet that would contain the possibility of recording multiple connected data points. For example, data about the issue number/date, the topic, the genre, the addressee, and the data source. These are cases where we don't yet have a plan for applying the method of document content analysis. However, if the research project anticipates the use of document content analysis, it is not advisable to skip creating a procedural plan and instruments.

The application of qualitative content analysis in principle does not require any instruments (neither a codebook of concepts and codes nor a record form), and it often cannot even be used to test hypotheses. In research practice, the situation is a bit different. For example, a hypothesis might state that in newspaper "X," "many pejorative epithets were used about the person N.N. when writing on a certain topic." This hypothesis can be confirmed or denied even by qualitative analysis, based on the impression gained from a review and simple recording-citing such expressions, without stating the exact number.

To arrive at a plan for applying qualitative analysis and a record form, we'll have to start by analyzing the statements of hypotheses and the variables they contain, and analyze the indicators used to verify them. Wherever a statement, a claim, an act, a provision of a regulation, correspondence, or something similar serves as an indicator, we must subject it to a strict conceptual and other analysis-more precisely, an analysis of meaningful statements. For statements in any form to be indicators, we must discover what they must essentially say, what they must claim, and what they must mean to be an indicator. Therefore, our first step is to analyze the relationships between the hypothesis statements and the statements (in any form) as indicators, and based on that, create an appropriate list of key concepts and statements.

The next step is the analysis of the theoretical and operational research subject, which contains all key concepts and definitions and essential statements-explicitly or implicitly stated.

If, in the meantime, questionnaires, bases for scientific conversation, or observation protocols have been created, we also analyze them in detail because they direct us to the necessary concepts and statements. Only based on all the aforementioned analyses is a working group of concepts, statements, and their meanings formed as the basis for creating a codebook of concepts and codes and a record form. For qualitative analysis, a true codebook is not necessary; an approximate-orientation-one is sufficient, which indicates what we can look for in the text. Often, the de facto codebook and form are merged so that the record sheet contains a list of concepts and statements and spaces for entering data. For easier handling, some researchers turn the record form into a list of questions with a space for an open answer. For example, the question is which genre the analyzed newspaper article belongs to-in short form: genre. The answer could be: news or code 1. This is an example of an *open record form* (both the questions and answers are open) which corresponds to qualitative content analysis. But there is also the so-called *closed record form* which corresponds to the static codebook in quantitative document content analysis.

In quantitative analysis, the creation of a codebook of concepts and codes is mandatory.[24)] The procedure for creating a codebook is the same as the one we have outlined (analysis of hypotheses, analysis of indicators, analysis of the research subject, formation of necessary lists), except that the codebook of concepts and codes precedes the creation of the record sheet. The role of the codebook is to guide the researcher to the necessary material, to help them understand the statements they are analyzing, and to recognize and record their meaning. The codebook is also the basis for creating record sheets ("forms") which can be closed. Namely, such a record sheet contains all the concepts and statements and all the codes that the codebook contains, and data is entered by placing a (+) or (-) sign over the corresponding code, depending on whether it is affirmed or denied. When processing such a form, especially if it is a collective one, there are significant technical advantages, but it is very difficult for analysts to use due to a lack of clarity, and it leads to errors that are difficult to detect and correct.

Regarding the content of the codebook of concepts and codes, two concepts are evident. The first was founded by a group of scientists and researchers from the USA, led by Berelson, Lazarsfeld, A. George, and others. It considers that the content of the codebook consists of two types of categories: content categories (what is said) and form categories (how it is said). According to this concept, the *content categories* (what is said) include (according to the book by Dževad Termiz and Slavomir Milosavljević: "Introduction to the Methodology of Political Science," p. 468):

1. Subject Matter Categories (Substance): Categories and concepts used to convey the subject matter of the content (which has the characteristics of a noun in a sentence).

2. Direction/Orientation Categories: These refer to the fundamental relationship toward the subject matter (e.g., qualifying the subject as positive or negative; showing approval or disapproval, pro- or anti-, optimistic or pessimistic, etc.).

3. Standard or General Measure Categories: These are used as the main criteria for classifying or evaluating the direction of the content (e.g., responsibility, democracy, autocracy, bureaucracy, etc.).

4. Value Categories: Categories of goals and desires, most closely linked to standard categories. These are categories that express the social traits and orientational values of subjects through their goals, such as: love, philanthropy, authority, etc. These categories usually relate to ultimate goals.

5. Method or Means Categories: These deal with the way in which certain results are intended to be achieved through an action.
6. Basic Feature Categories: The characteristics of the subjects discussed in the message.
7. Actor Categories: The agents of actions in the message, which refer to the participants in the process being discussed, their roles, functions, and places within that process.
8. Authority Categories: These refer to the subjects or factors that the author of the statement cites as an authority to strengthen the value of their own views or sources of information.
9. Origin Categories: These refer to the origin of the information-the environment from which it came.
10. Target Categories: These refer to the addressee to whom the message is directed.

Categories of Form (how something is said) would be:

1. Categories of Communication Form and Method: These deal only with general forms (e.g., radio broadcast, "daily news," commentary, a sociological conference, etc.).
2. Categories of Statement and Judgment Form: Factual, preferential, and identificational, which can be further subdivided by criteria like time, certainty, etc.
3. Intensity Categories: These refer to the strength of the statement (emotionality, engagement, etc.).
4. Trick Categories: These refer to the constructions, symbols, figures, and similar devices used in the statement.

M. Vujević, S. Milosavljević, I. Radosavljević, Ž. Tanić, N. Danilović, and others also cite these same categories. However, document content analysis cannot be fully understood without a detailed study of Rudi Stojak's book, "Metoda analize sadržaja"[25)] (The Method of Content Analysis).

The presented concept of researching content through categories and concepts, or a codebook of concepts and codes and a record form, must be credited with making a lasting and significant contribution to establishing content analysis as a specific research method, as well as to its standardization and formalization. Without it, the use of computers is not possible.

However, the presented concept also has significant weaknesses. Any description of an event, in any way, is necessarily a reduction in the originality of the basis of our knowledge. Every breakdown of a statement as a whole into concepts is a fragmentation of the statement and a further removal from its originality. No message is expressed through concepts, but through meaningful, significant statements-opinions, judgments, conclusions, etc. Reducing complex statements to categories and concepts impoverishes them and opens up the possibility of reaching completely incorrect judgments and conclusions.

As early as 1980, S. Milosavljević, in his book "Researching Political Phenomena", suggested a different concept based on the formation of a codebook of statements with standardized meanings, using models of social processes, structure, and systems. This approach counts on the intensive use of computers and the creation of appropriate phrases and dictionaries, as discussed by Rudi Stojak. The use of a successive and continuous codebook is also suggested.

The presented structure of the codebook of categories and concepts cannot be applied without significant refinement and operationalization in accordance with the characteristics of the subject and methods of each individual scientific discipline.[26)] It's worth noting that this concept originated back in 1942-1946, and its study in our region has largely been lacking in innovation.

Document (content) analysis is not limited to just creating and applying instruments. The creation of the instrumentarium is preceded by the determination of the units of analysis. These are determined at multiple levels: as documents (e.g., newspaper "X"), as a whole part of a document (e.g., the political section), as the narrowest whole (e.g., an article in the political section of newspaper "X"), and it is possible to choose even more elementary units-down to a specific character.

When we have selected the sources-the documents from which we will gain knowledge through analysis, whether about a phenomenon, the presentation of a phenomenon, or both-we must first determine the units of analysis. The general rule is that the unit of analysis must be a substantive, formal, logical, and meaningful whole that can also be physically defined. For example, it could be a single issue of a newspaper, a single section of a newspaper, a single article, a single topic, a single characteristic, etc. It is essential that the unit of analysis can be identified and understood as a whole, even if it is just a single letter or character.

Given that we have mentioned direct and indirect analysis, the analysis of the text (what is said) and the analysis of the context (what the author intended to say), we must also consider the units of analysis for both the text and the context.

Units of "manifestly expressed content" can be defined as the wholes of what is said that we will analyze. Within them, we must distinguish:

(1) grammatical units;

(2) units of what is said;

(3) signing units;

(4) classification - coding units;

(5) counting units.

The procedure otherwise follows this sequence:

(1) Determine the document to be subjected to analysis. This doesn't have to be a written document, so the term "grammatical unit" is only conditional; what is truly being dealt with is a meaningful, semantic whole.

(2) Establish what will actually be analyzed - the document as a whole, parts of the document, properties of the document, or properties of the phenomenon about which the document contains certain statements in any form.

(3) Decide what and how to sign - mark.

(4) Decide what and how to classify according to which criteria - which must be determined simultaneously with coding, as the codes indicate belonging to specific types or members of the classification.

(5) Decide what to count (only in quantitative research).

All of this is stated and contained in the codebook of concepts and codes, the record form, and the instructions for carrying out the analysis.

The final step is the processing of the data obtained through the analysis. The processing of data obtained through qualitative analysis is realized by forming opinions, judgments, and conclusions about the research subject. For example: "The articles on topic MM were treated with a great deal of seriousness"; "The information on orientational values in the articles of the political section were humanity, peace, democracy" - and all of this is based on an insight into the articles (text) and a well-founded impression.

The same procedure is followed for findings about the context.

The processing of data obtained through quantitative document content analysis is more complex. First, all corresponding mathematical and statistical procedures and all actions planned for the processing are performed. Then, based on this data, conclusions are drawn about the confirmation, partial confirmation, or rejection of the hypothesis (hypotheses), and finally, qualitative and quantitative conclusions about the research subject are formed. In the processing of data from quantitative content analysis, all the rules that apply to the processing of empirical research data are valid, which will be discussed in a separate part of this book.

4.5. The Biographical Method

The biographical method can be viewed as a boundary method between data collection methods and so-called operational methods, as well as between methods that have their own data collection techniques and those we call conceptual. That is, it's a method with a developed conception and system for data collection, processing, and drawing conclusions from them, while using data collection techniques from other methods. It is fundamentally a qualitative method, which does not exclude the use of quantification, the general scientific statistical method, and mathematical procedures. In its techniques and procedures, it is most similar to document content analysis and the inquiry method.[27)]

The difficulty in defining it more precisely stems from two stages of its development. The first stage began around 1914 and is associated with the founders of this method, F. Znaniecki and I. Thomas, ending around 1934. In this period, the original concept of the method gained positive expression, with the following basic tenets:

(1) Personal documents are a reliable source of scientific knowledge.

(2) Some of them provide primarily objective data, while others offer insight and information about a subjective experience and relationship to an objective situation.

(3) A large number of personal documents, if they come from members of the same class, group, or stratum, are a reliable enough basis to draw conclusions about that entire class, group, or stratum, or about the essential characteristics of the majority of its members.

(4) Through personal documents, we learn not only factual behavior but also the reasons for such behavior.

(5) Personal subjective documents are true because they are sincere, and every subject understands, interprets, and experiences an objective situation in their own way.

(6) The author of personal documents is the subject himself who voluntarily, and even on his own initiative, participates in the research.

(7) The method is suitable for both micro and macro research.

The promoters of this method distinguish two basic types of documents: a) documents created officially by certain institutions within their jurisdictions (government institutions, the church, social work institutions, various organizations, etc.);[28)] b) personal documents created by the subject-the unit of observation-primarily various types of letters, autobiographies, and biographies. Autobiographies and biographies should be distinguished. Autobiographies are considered original written statements about one's own life, while biographies are written statements shaped by someone else based on an oral statement or other sources. In some cases, this can be the researcher themselves.

The basic idea, on which the method's concept is based, is to learn truthful and as complete biographies of the subject as possible and to learn about the characteristics of various communities, groups, etc., through individual biographies. In the first phase of this method's application, the main support and sources were personal documents created by subjects-the research units-which were more or less spontaneously and freely created. Over time, it was established that it was necessary to affirm and apply the principle of complementarity. A key requirement of applying this principle is the simultaneous use and consideration of both official and private documents, or biographies and autobiographies, which increased the objectivity and truthfulness of the findings.

The next phase is characterized by an orientation toward creating autobiographies "on demand" ("commissioned" or "directed" autobiographies). Researchers discovered three significant difficulties in applying this method through their practice. First, in macro research, there were considerable difficulties in ensuring and proving representativeness. This is a persistent and difficult problem to solve. Second, there were huge difficulties in data processing due to various emphases, volumes, and levels of detail for certain questions. Initially, when the sources were primarily personal letters from Polish settlers in which they described their situation in the United States, they were representative of that stratum. However, when the subject of research became a broader issue (e.g., juvenile delinquency and juvenile "gangs," the status of women, etc.), the idea arose to direct authors to more fully and obligatorily describe events and experiences of interest to the research subject in their biographies and letters sent to researchers. This way, data processing and generalization were greatly facilitated, and biographies/autobiographies were structurally standardized to a large extent, but at the same time, they lost much of their spontaneity and originality.

The development of research techniques and practices, primarily in the USA, brought significant changes to the application of this method, especially in its second affirmative period from around 1960 to around 1978. In addition to applying the principle of complementarity (comparing official and private, biographical and autobiographical documents) and the development of a kind of non-directed oral and written interview, there were orientations toward: a) overcoming the major obstacle of illiteracy and lack of habit in written expression; b) developing the method's existing possibilities by using various technical devices and participatory observation.

Thus, three basic situations arose regarding the role of biographical documents in the biographical method:

(1) Personal and official/institutional documents are the sole sources of knowledge.

(2) Personal and official/institutional documents are the main sources, but other sources are also used alongside them (surveys, interviews, observation).

(3) Personal and official documents are auxiliary or parallel sources, while some others are the primary ones (e.g., direct participatory observation).

Through these three situations, the goal has been to achieve the so-called "saturation point" of data, which shows that the same or very similar basic patterns of life behavior are repeated in the autobiographies and biographies of members of the same group, class, or community. The repetition of the same basic patterns of life behavior in their actual biographies, according to the idea of the biographical method, addresses objections about insufficient representativeness and reliability of the data's empirical basis.

From its initial spontaneity, the method has, over time, transitioned to a well-developed basic research procedure which consists of:

(1) Detailed information about the research subject and its environment-which is a matter of conceptualization, creating a research project, and eventual orientation research.

(2) Selection of necessary data and ways of obtaining data-this is also a task of the research project. This is where possibilities for ensuring appropriate, high-quality samples arise, and proving that a spontaneous mass group, which might respond to a media call, is more representative of the actual statistical population than a statistical representative sample is considered superfluous.

(3) Obtaining data or original documents and building "base data"-a database. Here, computers enable the formation of various registers such as main, analytical, research diaries, correspondence records, etc.

(4) Analysis and evaluation of the collected material.

(5) Based on that, drawing conclusions about the research subject.

The properties of the biographical method point to the usefulness of sequential analyses. However, these analyses are not phased, as is the case with observation, but are analyses by specific parts and applied methods or by sets of homogeneous statements from individuals.

The biographical method reached its highest degree of affirmation in the USA, and in Europe, in Hungary. In other parts of the world, it has not been as widely affirmed as other scientific research methods. Nevertheless, in the analytical practice of the media, the form of "letters from readers, listeners, and viewers" is very developed, and in union and institutional practice, the analysis of petitions and complaints, which is a variant of the biographical method.

Regarding the biographical method, several questions can be raised. Among the first is the question: can the modern biographical method be considered a specific method, given its data collection methods? There is no reason why it shouldn't be considered as such, because not all methods have their own unique data collection techniques.

The second question is undoubtedly: is it an exclusively qualitative method? By its essence, it is qualitative, but, as we have already said, this does not exclude quantification and the statistical method.

And the third, very interesting question is: why hasn't it been more widely affirmed? It is obvious that the contemporary concept of scientific research is considered one that implies the simultaneous use of multiple methods, including inquiry, document content analysis, and observation. However, the experiences of this method cannot be ignored, and in some areas of science and profession (e.g., social work, some areas of law, etc.), this method is very productive and penetrating, although it can be considered a method related to axiological approaches.

4.6. The Case Study Method

The case study method falls under the category of operational, conceptual, and empirical-theoretical research methods. It can justifiably be called an experimental method. This method emerged as an applied research method in the middle of the last century, and its global recognition was particularly influenced by the American scientist, Lipset.[29)] However, this method is not widely used in our region, although it has been used and developed in research on union issues and public administration.

As with all conceptual and operational methods, questions are raised here too: can it really be accepted as a specific method, is the name "case study method" appropriate, is it scientifically valid, and is it sufficiently representative as an empirical basis for scientific generalization, etc.

The case study method is undeniably unique in its basic research concepts (the sequence of procedures and technique application, relationships within the research, and logical-epistemological postulates) and its methodological assumptions and penetrative power. The basic principles of the case study method can be simplified as follows:

(1) The research subject of the case study method can only be a specific, dynamic whole of social reality that can be clearly distinguished from its environment and whose boundary conditions (beginning and end) can be empirically and reasonably determined. Therefore, the "*case*"-a concept and term that is a fundamental principle in the method's name, whether it is an individual, micro, or macro case-is the subject of research with this method.

It cannot be disputed that defining the concept of a "case" and its empirical identification is a very complex and responsible scientific research task, but it also cannot be considered an obstacle to the case being the subject of this method. This practically means a commitment to placing emphasis on gaining knowledge about a specific, defined, dynamic social whole and its characteristics, including its relationships and connections with the environment.[30)]

(2) The diversity of cases in society requires the use of a variety of data sources and diverse data, which practically means using all data collection methods, as well as all basic and general scientific methods. Therefore, regardless of whether it was possible to construct a specific data collection method characteristic of the "case study method," it was not expedient. On the contrary, it is far more productive to establish a functional combination of proven methods to achieve greater research penetration.

(3) The case study method relies heavily on the scientific research and theoretical foundation-especially on models of social processes-and, at the same time, on the empirical course of actual events-cases. Through a case study, a known model is scientifically reconstructed, but a new model is also formed based on newly acquired, current knowledge.

The name "case study method" most fully expresses the essence of this method, which is to study the process of a single case in detail-from its causes and motives, from its inception, growth, culmination to its stagnation and conclusion-according to a strictly conceived research procedure. This provides it with deep penetrative power and the characteristics of an "experiment in natural conditions" or the so-called natural experiment. The names "case method" and "case analysis" are narrower and one-sided. Here, we are dealing with a method in which the case is embedded as a methodological principle.

We have labeled the case study method as conceptual and operational because it is a method based on the concept of a research system, without its own specific research techniques. Also, in certain studies, it is sufficient as the only method, while in some complex studies, it can be just one of the methods.

We consider it empirical-theoretical for two important reasons: a) it is very suitable for empirical research of real social events-e.g., actual social actions located in time and space-while successfully testing conceptual and theoretical models; b) through empirical research, it forms a suitable basis for conceiving theoretical models and their further theoretical elaboration.

The objection about its insufficient representativeness and unsuitability for generalization has no basis, except in rare cases. Namely, it is known that incomplete induction allows for drawing conclusions about a class based on just one typical example, and when choosing the research subject, the focus is on a typical case (typical cases). Second, there is no rule that in the case of mass phenomena (e.g., marriage, family, a military unit, a company, an organization, etc.), only one case must be studied at a time; instead, it is possible and advisable to research "cases in a series" or a "mosaic of cases."[31)] Here, as with the biographical method, we can talk about the "data saturation point" and "basic forms of social behavior" that, with minor or major deviations, are repeated.

The research procedure for the case study method depends on whether an individual, micro, or macro case is being studied, and whether a completed or a live case is being researched.

The term "individual case" refers to research that covers events related to a single individual. The individuality of the subject may exclude some collective activities, but this depends on what the true research subject is. For example, the research "The Professional Development of N.N." will not exclude certain collective activities.

A "micro-case" means that the research subject is a micro-group or micro-community (e.g., one department of a class in school, a specific media newsroom, one operational unit of a company, etc.), and a "macro-case" implies a large community or organization (e.g., a general strike of a union or a confederation of unions).

A "completed case" is one that has already occurred and belongs to past cases-although the consequences of its occurrence may still be ongoing-so it is a reconstructive study. Such research allows for a complete process of developing a research project. In contrast, a "live case" is one that is currently happening. Here, two basic situations arise. The first, more favorable for the researcher, is one in which the beginning of a certain case is manifested, while the second, less favorable, is when a case that has already begun is in progress. In the first case, preparations can be made to follow the entire course of the case, while in the second case, there are two simultaneous tasks: a) joining the case tracking in the phase it is already in (which could be the final phase); b) reconstructing the phases of the case that have already passed. Connecting these two distinct parts (the one that has already happened and the one that is currently happening) can be very difficult in some conflict situations.

In principle, the general procedure for applying the case study method, while respecting the mentioned specifics in research practice, consists of the following stages and phases:

(1) The first stage begins with discovering the problem or case that will be researched and its developmental phase at a given moment, based on data from all available sources.

(2) Simultaneously establish contact with the most informed and competent subjects-actors of the case-and prepare the initial instrumentarium which, if there is no time to develop a project, consists of a memo for a non-directed free interview and a possible list of necessary documents. These are the initial, integral parts of the conceptual sketch, which has an initial orientation role in the absence of a research project.

(3) Based on an agreement, and if an agreement is not possible, even without it, conduct preliminary interviews to gain knowledge about the key actors, events, existing data sources, etc. The preliminary data obtained in this way serves for: a) developing the operational research project; b) creating a list of people to be interviewed and preparing a memo or basis for the conversation; c) creating a list of documents that must be reviewed; d) creating a timeline of events that will be shown to the interlocutors with a request to confirm or correct it.

After this preparation, the researcher's fieldwork begins, during which individual interviews are conducted and documents are reviewed, or they are collected and analyzed. This phase of the first research stage ends with the preparation of three basic overviews:

A) A chronology of events (with the roles of the actors).

B) An overview of the most significant actors, their roles, and their influence.

C) A review of reliable and available documents and records created during the events or those in preparation.

The second stage begins with developing the instrumentation needed to verify the initial reviews. The most common tools are:

a) Instruments for individual and collective interviews.

b) A codebook and template for the qualitative and quantitative analysis of document content.

c) A protocol for direct observation-the "observer-participant" type.

The next phase of this stage is data acquisition based on the list of key actors and the application of data collection techniques.

Based on the collected, organized, and processed data, a comprehensive report on the case study is prepared. This is essentially a detailed description of the process, though it also covers causes, triggers, consequences, etc. A key requirement is that this report does not contain the researcher's opinions, judgments, or conclusions. Instead, it must only provide a credible and well-documented description of the actors' statements and behaviors. The purpose of this report is to be subjected to collective, competent verification, from which scientific conclusions and potential recommendations can be drawn.

The next stage is the verification of the prepared report at a meeting of the actors and researchers. Sometimes, such gatherings cannot be held at all, so researchers consult only the main protagonists or some of the most competent individuals. In other cases, these verification meetings can be very unpleasant and dramatic, as many actors see or learn about the full scope of events and the roles and activities of the various participants for the first time.

The final stage of the research is the creation of the final report, which includes: a) A review of key questions with primary positions on them; b) A review of recommendations for applying the scientific knowledge gained.

The case study method is also recommended as a method for action research in all fields of social sciences where social actions are being investigated.

The application of the case study method often requires specific procedural adjustments. These specifics arise from the properties of the project and the research subject. Two variants are dominant:

The first variant involves researching a single, significant, and long-term typical case through its various developmental phases (e.g., beginning, culmination, stagnation) based on a unified project, often in the form of a panel or longitudinal study.

The second variant involves researching multiple related but different cases simultaneously, either with a unified project or a general project with multiple sub-projects. In this type of research, knowledge is first established, and a report is prepared and verified for each case individually, which is then used to create a general report. It is not sensible to discuss this general report at a verification meeting due to the actors' lack of information. This application of the case study method provides a highly representative and reliable way to show identical, common, and different findings, their variations, reasons for identical and non-identical outcomes, and the underlying trends. With the use of comparative method principles, such research also has a predictive value.

A similar situation exists with the so-called "mosaic method of case study." The main idea is that all simultaneous cases do not have all components and features equally developed at the same time. Therefore, from a predictive standpoint, it is justifiable to research those cases where certain components and features are most developed or least developed. Their comparison-when the research is conducted using the same general project with multiple adequate sub-projects-provides, through synthesis, a very reliable scientific basis for making predictive conclusions about the development of a phenomenon. This application of the method also does not require a general verification meeting.

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Based on everything said, it can be reasonably concluded that the case study method is very suitable for theoretical and empirical research in all social sciences due to its penetrative, economical, and prognostic qualities.

In addition to the aforementioned operational methods, we must mention another specific method that is rarely used and discussed in the social sciences. This is the so-called factor analysis, the key characteristics of which are:

1) It is primarily a conceptual method and lacks developed rules and instruments for data acquisition, but it has very developed procedures for treating already acquired data.
2) The acquired data must be suitable for using matrix calculation.
3) It belongs to the category of multivariate structural (and structural-functional) methods, and as a numerical-quantitative method, it has the properties of a formal model.
4) The basic ideas on which factor analysis is based are:
    A) Phenomena are interconnected.
    B) The connection can be causal and correlational.
    C) Based on some phenomena, others can be studied.

D) The interconnectedness of phenomena allows for the discovery of causes-understanding correlational changes.

5) A significant effort of factor analysis is directed at discovering correlation coefficients and forming the appropriate matrix.

6) Factor analysis has developed a general model and specific models (geometric, component analysis, common factors, etc.).

Although factor analysis is more of a data processing method, it is mentioned here because its use requires data of specific properties, and thus corresponding ways of acquiring them. It was developed and affirmed in psychology, especially in the works of Guilford, Thurston, etc.

At the end of the discussion about data acquisition methods, operational methods, and conceptual methods that have their own techniques, instruments, and procedures for data acquisition, we must clear up a misconception implied by statements and classifications of methods, including the classification of data acquisition methods. Everything we are about to say has already been contained in previous expositions, so it is enough to briefly remind you of it here.

First, there is no such thing as subjectless content. The research subject can only be a past, current, or future; real or probable factor, property, relationship, etc., of social reality. Empirical research can have reality as its subject, or that possible social reality that can, in some way, indirectly or directly, truly manifest itself. Theoretical research does not have to deal with past or current reality; it can also deal with mere ideas to which the properties of a probable or possible reality that does not manifest outside of thought-not even through a statement-can be attributed. However, the requirement for intersubjective verifiability requires the possibility of proof and refutation, and that further requires appropriate manifestations. This excludes from scientific research those thought processes whose subject does not manifest in any way and whose research processes of proof do not manifest at all.

Therefore, the subject of scientific research must somehow manifest itself, and, accordingly, there must be some indicators or signs of the features or factors of the subject. Data is acquired about these. Is data acquired in all research (if that common term is valid) or is it done only in research that relies on sensory-empirical data? Is scientific research possible without data acquisition? The subjects of theoretical research do not have to be already manifested social realities; they can also be possible future realities that will be created by certain human action. Therefore, in this case, *it is not possible to collect data* because there are no indicators. And scientific research cannot be performed without data. This is why the question was posed: must data always be acquired? We believe that in theoretical research that also relies on scientific literature, two simultaneous processes occur: a) data acquisition from literature and executed research; b) data derivation by developing and concretizing an idea and modeling it. These two processes are interconnected and, it seems, interdependent. The proposed hypothesis implies another: in theoretical research that does not rely on data from completed research and literature, data can be derived and do not have to be acquired. Of course, the danger of falling into a scholastic way of thinking remains, and the long-term task of deriving data hidden within the theoretical idea itself remains. Data derivation also implies their discovery in existing ideas, that is, in the knowledge on which they are postulated and in the terms of the meaningfulness of the idea. It seems that such an approach is justified for the initial phase of shaping an idea, in which analysis and deduction play a huge role, as well as induction through inspiration.

Let's return to the problem of data acquisition methods. The previous presentation showed us that at the core of every thought are the subject and method of thought, which means data. Therefore, there can be no method of scientific research that is not simultaneously a method of data acquisition or derivation. The name "data acquisition methods" only emphasizes their pronounced ability and function to acquire specific types of data and to systematically record them. The name "operational method" only emphasizes their multifaceted ability to acquire, organize, and use data, and to draw conclusions from them. The name "conceptual methods" emphasizes the role and system of conceptual provisions in their application.

5. Interrelation of Data Acquisition Methods in Research

In practice, research encounters three typical situations regarding the use of data acquisition methods. Simplified, they can be presented as:

A) Using only one data acquisition method in a specific study.

B) Using multiple data acquisition methods, but one method is the main one, while others are supplementary or auxiliary.

C) Using multiple data acquisition methods simultaneously and on an equal footing, or within a system with defined roles and relationships for each individual method.

The choice of method is influenced by three key factors: the subject and goals of the research, the type of research, and the disciplinary nature of the research.[32)]

In practice, we have many research subjects that can only be *studied using a single method*. For example, the content and key characteristics of a single document (a newspaper, book, broadcast, etc.) can be studied only with the method of document content analysis. Of course, this doesn't exclude the possibility of using, for instance, a survey method, but it would only reveal the attitudes and opinions of certain individuals about the document, not provide direct information about the document itself.

Far more numerous are subjects that can, and often must or at least should, be researched using multiple data acquisition methods simultaneously. Any process or human social behavior is best studied by applying at least the following three methods: a) document content analysis, b) surveying, and c) observation. Documents contain information about past, typical, and most common behaviors (processes); actors' statements provide their views, experiences, and knowledge; and observation provides competent, scientific insights.

Using multiple methods in the same research raises the question of the relationship between these methods and their results, as well as their roles in drawing conclusions. Before answering this question, we must resolve the problem of the relationship between different techniques of the same method applied in the research. In this regard, we emphasize the rule: *the primary and dominant method and technique are those that are more suitable for understanding the characteristics of the research subject and are more insightful.* Let's recall the example from the previous text (the topic: "Articles in the political section of newspaper 'X'"). The dominant method is document (content) analysis, because only by applying it can we gain genuine knowledge about the articles, the section, and the newspaper. The more insightful technique is quantitative document (content) analysis, as it will numerically express certain features of the articles, section, and newspaper, both qualitatively and quantitatively. However, it is also desirable to know whether our objective, scientifically-based knowledge aligns with the views, understandings, and experiences of the readers-for whom the articles are intended! For this, we need either a survey or introspection. Since mass self-observation by readers is very difficult if not impossible to organize, we focus on surveying. A mild survey is the most penetrating form of surveying, and the non-directive and directive orientational interviews are the most suitable for it. Given the properties of possible questions and answers and the problems of processing, we opt for a directive orientational interview.

In our presented case, the primary and dominant method is quantitative document (content) analysis, while the accompanying, auxiliary, and control method is a mild survey using the directive orientational interview technique. A comparison of the results obtained by the first method with those obtained by the second serves to correct, interpret, and more fully understand the results obtained by the document content analysis-which remain the basic and essential for drawing conclusions.

A second case in which we simultaneously apply multiple data acquisition methods, and each of them is equal in that process, implies three situations:

A) Intra-disciplinary research: Within a single intra-disciplinary project, the research subject is very complex, so some of the individual hypotheses, due to the nature of their indicators, can only be verified by a specific method, while others can only be verified by other methods. For example, a hypothesis about the change in the properties of articles in the political section of newspaper 'X' can only be verified by a certain type of experiment, while others can be verified by surveying, observation, etc. Here, these methods are independent and thus equal.

B) Multi-disciplinary research: The research is complex because there is a general project with multiple sub-projects, each belonging to a different scientific discipline of the same science. Certain sub-projects are better suited to specific methods and techniques than others. These methods and techniques are therefore equal and independent for each sub-project.

C) Interdisciplinary research: The research is complex, with one general project and multiple special independent projects belonging to various sciences (e.g., economics, political science), so specific methodological approaches and methods are more suitable for each of them individually. This is the most complex situation.

The main problem is connecting and evaluating the data obtained by various methods and approaches, synthesizing them into a system, and drawing valid conclusions from them. In practice, there are several ways to do this-starting from comparing, to using the same processing concept, to statistical-mathematical calculation via two-stage and multi-stage or two-way and multi-way systems-but none of the methods are completely reliable. The lowest degree of reliability is given by those syntheses that are performed on multiple independently created data systems.

The task of the general project and processing plan is to pre-establish the standards and models for data unification and evaluation and the schemes of their relationships. Subsequent constructions made based on data obtained without previously logically and methodologically harmonized concepts, standards, instrumentation, and processing plan settings are very risky as a basis for any conclusions or evaluations. This is especially true for data obtained through surveys (by various methods and without control questions) at various locations and times about events that happened long ago.

Pointing out these problems is not a call to abandon complex methodological systems. On the contrary! It only insists on the standardization of methods, procedures, and instruments without the arbitrariness of mathematical-statistical mystifications. For example, when a statistical method is applied in the research of social phenomena, it is necessary to have sufficient and reliable knowledge about the statistical mass and the sample because they are not just simple numbers, but rather sets and representations of social structures and social phenomena. An error in the foundation is necessarily multiplied.

1. Milić, Vojin, cited work, pp. 381-382, justifiably points out that authors from Western European countries incorrectly call all forms of acquiring empirical data in science "observation" and provides a distinction between observation and other forms. Unfortunately, he himself is not consistent in differentiating between research and surveying.
2. Šešić, Bogdan: *Osnovi metodologije društvenih nauka* [Foundations of Social Science Methodology], p. 200. Zaječaranović, Gligorije, cited work, p. 167. When acquiring data or facts, one should bear in mind: a) in the majority of cases in political science research, only data are collected, and exceptionally, facts of reality; b) some sciences, e.g., archaeology, primarily operate directly with facts. For most scientific research, it is sufficient to acquire data about facts, and based on them, scientific processing leads to "cognitive" facts.
3. Touraine, Alain, cited work, develops the "sociological intervention" method in which the boundary between political and scientific research activity is almost lost during data acquisition.
4. Bujas, Zoran: *Uvod u metode eksperimentalne psihologije* [Introduction to Experimental Psychology Methods], Zagreb, 1974, Školska knjiga, p. 97 states that coefficients from 0 to 0.2 indicate a very weak or no connection, and over

0.7 indicate a close connection. This precisely points to the aforementioned specifics of statistical significance in political research.

5. On sources of information, see: Milić, Vojin, cited work, pp. 384-401 and 535-634. Bogdanović, Marija, cited work, pp. 179-203.
6. M. Goode and W. Scott, cited work, pp. 473-484. Mužić, Vladimir, cited work, pp. 191-217. Goode and Hatt, cited work, pp. 100-113.
7. Goode and Scott, cited work, pp. 473-477.
8. Almost all methodologists have dealt with the problems of scientific observation in approximately the same way, but with unequal precision. See: Milić, Vojin: *Sociološki metod* [Sociological Method], pp. 431-437.

   Goode, William J. - Hatt, Paul K.: *Methods in Social Research*, pp. 114-125. Mihailović, Dobrivoje: *Metodologija naučnih istraživanja* [Methodology of Scientific Research], pp. 155-160. Vujević, Miroslav: *Uvođenje u znanstveni rad* [Introduction to Scientific Work], p. 86.

   Termiz, Dževad: *Osnovi metodologije nauke o socijalnom radu* [Foundations of Social Work Science Methodology], pp. 157-171. Šešić, Bogdan: *Osnovi metodologije društvenih nauka* [Foundations of Social Science Methodology], pp. 241-242.
9. Milosavljević, Slavomir: *Istraživanje političkih pojava* [Research of Political Phenomena], p. 164. Milosavljević, Slavomir. Radosavljević, Ivan: *Repetitorijum*, 1988, p. 126.

   Pešić, Mihajlo: *Uvod u sociologiju* [Introduction to Sociology], p. 124. Pečujlić, Miroslav, cited work, p. 120. Milić, Vojin: *Sociološki metod* [Sociological Method].

   Mužić, Vladimir, cited work. Mozer, cited work.

   There is almost no methodologist who discusses data acquisition methods without mentioning the survey method.

   Janković, Vojislav - Raković, Živorad and Viđenov, Arsen: *Analiza društva* [Analysis of Society], Belgrade, 1981, Savremena administracija, p. 80, instead of the usual terms surveying, questionnaire, interview, they list the conversation method, which significantly narrows the concept and practice of the survey method.
10. Milić, Vojin, cited work, pp. 485-489.
11. Milić, Vojin, cited work, p. 478: "Scientific conversation (or interview) refers to any data acquisition through verbal communication, with the goal of using the obtained information for scientific purposes."
12. There are multiple definitions of the term attitude: Morgan's, Allport's, Krech's, Crutchfield's, and Balakoya's, etc. Based on the exposition by Nikola Rot in *Osnovi socijalne psihologije* [Foundations of Social Psychology], Belgrade, 1980, Zavod za udžbenike i nastavna sredstva, pp. 279-290, we consider an attitude to be a permanent dispositional system consisting of cognitive, emotional, and conative components.
13. The poly-deterministic type is understood as a "group sorted around a single content... consisting of several questions that aim to uncover the determinants

of a specific statement by the respondent... Most often these are: time determinants, reference group determinants, determinants dependent on a presumed social situation, etc. ... This can be combined with the funnel method, battery." Bosnić, Slobodan: *Opšti problemi pribavljanja podataka o društvenim pojavama* [General Problems of Data Acquisition on Social Phenomena], in the collection, *Metodologija istraživanja društvenih pojava* [Methodology of Social Phenomena Research], p. 87.

14. Mihailović, Dobrivoje, cited work, pp. 100-102.
15. Milosavljević, Slavomir - Radosavljević, Ivan: *Repetitorijum iz metodologije društvenih istraživanja* [Repetitorium of Social Research Methodology], Institute for Political Studies FPN, Belgrade, 1988. Expanded and supplemented edition, pp. 141-148. Milić, Vojin, cited work, pp. 450-489, 500-508. Goode and Scott: pp. 495-498.
16. Milosavljević, Slavomir: *Omladina u političkom procesu* [Youth in the Political Process] pp. 157-226 and 265.
17. Mužić, Vladimir: *Metodologija pedagoškog istraživanja* [Methodology of Pedagogical Research], pp. 309-353. Vujević, Miroslav: *Uvođenje u znanstveni rad* [Introduction to Scientific Work], p. 113.
18. Milić, Vojin: *Sociološki metod* [Sociological Method], pp. 679-712. Vujević, Miroslav: *Uvođenje u znanstveni rad* [Introduction to Scientific Work], pp. 81 - 84.
19. Nagel, Ernest in: Miroslav Pečujlić: *Metodologija društvenih nauka* [Methodology of Social Sciences], pp. 447 - 454.
20. Milosavljević, Slavomir - Radosavljević, Ivan: *Repetitorijum iz metodologije društvenih istraživanja* [Repetitorium of Social Research Methodology], Institute for Political Studies FPN, Belgrade, 1988. Expanded and supplemented edition.
21. Milosavljević, Slavomir: *Istraživanje političkih pojava* [Research of Political Phenomena], Institute for Political Studies, Belgrade, 1980.
22. Lukić, Radomir: *Metodologija prava* [Methodology of Law].
23. Novosel, Pavle: *Metode političke znanosti* [Methods of Political Science] - in: A. Bibič - P. Novosel: *Politička znanost - Predmet i suština - metoda* [Political Science - Subject and Essence - Method].
24. Tanić, Živan: *Metode posmatranja (analize) dokumenata* [Methods of Observing (Analyzing) Documents], pp. 136-174 in the collection: *Metodologija istraživanja društvenih pojava* [Methodology of Social Phenomena Research].
25. Stojak, Rudi: *Metoda analize sadržaja* [The Method of Content Analysis].
26. Milosavljević, Slavomir: *Istraživanje političkih pojava* [Research of Political Phenomena].
27. Bogdanović, Marija: *Metodološke studije* [Methodological Studies], Institute for Political Studies, Belgrade, 1994, pp. 121-178.
28. Termiz, Dževad, *Osnovi metodologije nauke o socijalnom radu* [Foundations of Social Work Science Methodology], Grafit, Lukavac, 2001, pp. 171-173. Milosavljević, Slavomir - Radosavljević, Ivan: *Osnovi metodologije političkih*

nauka [Foundations of Political Science Methodology], Službeni glasnik, Belgrade, 2000, pp. 570-575.
29. Bogdanović, Marija: *Metodološke studije* [Methodological Studies], pp. 81-120.
30. Ristić, Živan: *O istraživanju metodu i znanju* [On Research Method and Knowledge], Institute for Pedagogical Research, Belgrade, 1995, p. 365.
31. Milosavljević, Slavomir: *Istraživanje političkih pojava* [Research of Political Phenomena], Institute for Political Studies, Belgrade, 1980, pp. 267-271. and "*Politička akcija*" [Political Action], Institute for Political Studies, Belgrade, 1976, pp. 267-271.
32. The text of this part of the book relies, first, on the preceding discussions, and especially on the section about various types of research projects and research types; second, on experiences in the practice of contemporary scientific research.

IX - SPECIFIC ISSUES IN ACQUIRING FACTUAL, VALUE-BASED, AND OTHER DATA THROUGH VARIOUS METHODS

IX - SOME SPECIFIC PROBLEMS OF ACQUIRING FACTUAL, VALUE-BASED, AND OTHER DATA USING VARIOUS METHODS

Our discussion must begin with the question of what constitutes a fact within social life, a social phenomenon, a process, social behavior, etc. This is necessary to be able to define what a factual datum is. The definition that a factual datum is one based on and relating to a fact, where a fact is understood as an objective part of reality, only complicates the question. In seeking an answer to the question: "What is a fact in society?", we must first state that there are natural, material, and immaterial facts. We will not deal with these directly, as they are primarily the subject of other sciences. Do facts also exist in human society in the same, similar, or a different way as in nature?[1)]

The essential differences between facts of overall reality, natural reality, and social reality are as follows:

1) Overall reality encompasses past, present, and the tendencies of future reality-both natural and social.

2) Facts of natural reality are fundamentally and in principle prior and foundational in relation to the facts of society and exist objectively, independent of the will and consciousness of man and society. Society has acted upon many facts, more or less with its activity-conscious or unconscious-so from this class of facts, we only exclude those whose properties have been substantially changed by the action of society, as they are then considered social facts.

3) Facts of society (human society) are connected to and, in many ways, conditioned and determined by natural facts. The facts of society also exist objectively in social and general reality, but they are characterized by at least the following specifics:

a) Social facts are a product of human and social behavior-instinctive (spontaneous), deliberate, and organized, purposeful action. A further consequence of this is that they are the product of conscious, purposeful, and goal-oriented actions. In this sense, although social facts exist objectively, they also simultaneously have value-based determinations. Value components are embedded in them through their purposefulness. When acting at a certain time and place, society establishes goals in accordance with its awareness of good and evil, useful and harmful, permissible and forbidden. Hence, every social fact has its objective and subjective determination and its role, social function, and social, group, and individual meaning.

b) With changes in society, i.e., the properties of society, most social facts[2)] change, either in content, form, or meaning, or fundamentally in all three segments. However, some essential objective facts of society remain fundamentally unchangeable, although some factors and properties can radically alter them. These essential, basic facts of society include: man as an individual and as part of a group and community; human behavior and action; human emotions; human consciousness; the relationships between nature and man, and man and man; man's position, man's production and consumption, and his needs; man's organization; human communication. No matter how reserved we may be towards these claims, we cannot validly dispute them. Nevertheless, we can note that in the practice of the existence and functioning of human society, they appear as concrete diversities in various phases and stages of social development. No human society is yet known that was not made up of a multitude of individuals mutually united in various, then functional, ways. These individuals had various characteristics, roles, functions, and positions; they belonged to various groups, communities, organizations... and all of this had the same or different meaning for them as individuals, their groups, communities, organizations... Our fundamental problem is that one factual, objective fact of society has various meanings for various subjects at the same time and that the researcher cannot arrive at a unified objective meaning for the data on a social fact.[3)] Let's take the following statement as a hypothetical true datum about an objective fact: "The political editorial office of newspaper 'X' consists of 25 subjects." Nominally, this is a factual statement that can be objectively determined by measurement. But is it really so? If one observes the work of the editorial office-since it is an organized work unit-it will be seen that it often functionally involves fewer members than the full roster. Namely, someone is sick, a position in the office is not yet filled, someone is absent for some reason, etc. If so, is it true that the fact is that the editorial office has 25 members?

c) Facts of society are simultaneously objective-factual and value-orientational; they are both factual and value-based, and therefore it is very difficult to separate what is factual and to arrive at the true meaning. Let's assume that out of the 25 members of the editorial office, 17 members have a common position that nothing should be changed, and 8 have the position that progressive changes should be introduced. The conservative members have a two-thirds majority and can always vote in favor of a decision in line with their orientation, i.e., a minority smaller than 1/3 cannot influence the introduction of progressive changes. What is the factual fact here? The existence, manifestation, and influence of orientational values, moral norms, etc.-their acceptance or non-acceptance-are also factual facts of society.

With the preceding discussion, we have pointed out three essential difficulties in identifying objective social facts as the basis for factual data and their content.

The ascertainment of facts in society-social facts-is, according to everything presented, very complex.[4)] Social diversity, changeability, complexity, and other properties of society are the source of these difficulties. Although we cannot resolve these difficulties with a single definition, because we cannot form a definition that would equally well meet all requirements, we are nevertheless obligated to try to define what a fact of human society is. According to current knowledge, it is any social process, phenomenon, behavior, action, relationship, motive, interest, goal, aspiration, feeling, or sensation, any spiritual or material creation (including knowledge, conviction, belief, etc.) that in any way and to any extent contributes to, influences, or is merely a component of the properties and structure of society or some part of it.

The proposed definition of social facts encompasses material and immaterial; spontaneously, and purposefully created facts-including Durkheim's "social facts"; facts of various positions, roles, and functions within the system of society, groups, and individuals. Their content points to the necessity of discovering social facts, of ascertaining and determining their quality and quantity, their place in the order, their similarities and differences, their significance, influence, and meaning. Meaning-objective, social, subjective, emotional, political, cultural, artistic, etc.-is the greatest problem and an essential task of every conscientious researcher.[5)]

The proposed definition of social facts, in which we have distinguished between essential, structural ones (without which a society cannot exist) and facts of lesser significance and influence, is the basis for defining factual data.

We understand factual data as information, more or less complete, about social processes and phenomena-that is, about their facts that have manifested in some way, directly or indirectly, and which can be ascertained. The content of a factual datum is a certain social fact or a part of it, or some of its properties or activities-that is, relatively true and relatively accurate knowledge about it. In short, a factual datum is knowledge based on the most direct possible insight into the facts; they describe and express the facts relatively truthfully and accurately (as truthfully and accurately as possible); they are the basis for making factual judgments and conclusions that are, by their nature, true and accurate, and are in reality relatively true and accurate to the extent that they "reflect" or express the phenomenon as it truly is.

In principle, it is easier to identify facts that manifest directly and to collect-more accurately, to record accurate and relatively true data about them. For social phenomena, it is characteristic that many of them do not manifest directly but through other phenomena and their manifestations. This is one of the main problems in identifying social facts. "Empirical facts" is a term often used to denote the facts of social reality. For the researcher, this term is only conditionally tolerable, because facts outside of reality as a unique synthesis of natural and social reality (where, from the point of view of interest and knowledge, natural reality is an essential component of the social) do not exist. "*Empirical data*" are, therefore, data about the facts of social reality that are obtained through certain methods of direct and indirect sensory perception and reflection.[6)] In scientific research, these are the insights gained by applying scientific methods, including data acquisition methods.

Methodology and theory are, in a sense, in opposition to factual and value-based data. Value-based data is understood, at least in principle, as data about values, based on values, and therefore unsuitable for making a true judgment about reality. In the broadest sense, value-based data are widely understood as subjectivism-thus lacking objectivity.

We have already pointed out the conditionality and interdependence of the subjective and objective in human and scientific knowledge, as well as the factual-the objective existence of various value systems and their real role in society, social consciousness, and social behavior. We will not return to that. For a scientific researcher, the problems of identifying and distinguishing factual from value-based data are crucial. The problem stems from the close relationship between *evaluation as a form of intuitive measurement* and qualitative determinations, i.e., data about them. For example: good, reliable, honest, hardworking, clever, democrat, autocrat, etc., are intuitive evaluations and statements about the qualitative determinations-social properties of certain subjects. We will consider as *value-based data* all data that contain a certain evaluation of a characteristic, property of a subject, process, phenomenon, relationship, connection, behavior, etc., based on some orientational-value system. This does not mean that value-based data cannot be based on factual argumentation. On the contrary, the evaluation "hardworking," "diligent," etc., can be built on elements of factually established behaviors. This is the case with most social qualifications. However, these value-based determinations are fundamentally contradictory, because what is good for one person may be evil for another. Therefore, when acquiring data, we will primarily focus on factual data, and we will derive value-based data from them based on defined and explained criteria or treat and use them as attitudes or as defined norms.

When establishing our relationship towards value-based attitudes, we will not accept the absolutist view that values cannot be researched and that value-based data do not contribute to the formation of a valid scientific basis for true, objective scientific conclusions about society. On the contrary. Acknowledging that consciousness is an essential factor in human society, and that human behavior is motivated by its knowledge, beliefs, expectations, aspirations, and goals-that is, by the value systems that also express social and human ideals-we hold the view that not only facts should be researched, but also the reasons for them, the origin, content, intensity, and place of certain values in value-normative systems and practical behavior. Also, when researching the content and direction of a certain value, we must research how much that value, through its realization, benefits some while simultaneously endangering others. Without this, it is impossible to discover the true objective characteristics of values and their objective meanings, and this is not possible without a connection between factual and value-based data.

1. Specificity of Acquiring Qualitative Data

Scientific research practice and certain theoretical-methodological approaches sharply distinguish between qualitative and quantitative divisions, insisting on one or the other. We will first ask ourselves: what is quality-what, based on that, can we define as qualitative, and then what are qualitative data and how do they differ from quantitative data?[7)]

In short, quality is a set of interconnected essential and other properties-attributes of a whole, its structure, composition, relationships and connections within it, and its relationship with the environment, and the manner of its manifestation. The complexity of this definition is significantly contributed to by very complex concepts such as: property, attribute, characteristic, relationship, connection, etc. In our text, we will attribute properties to features and characteristics that are not components of a subject's personality. Properties are primarily objective, attributes are subjective, and character and characteristics are socio-subjective determinations of a subject's personality. In this sense, "tall" or "heavy" is a property; "kind-hearted," "benevolent," "intelligent" is an *attribute*; and "honest," "polite," "educated" is a *socio-character trait*, a component of character.

Therefore, we consider all data related to existence, *structure*, *composition*; *properties, attributes, and characteristics*; *relationships and connections*; *contents and forms and essences* as *qualities*. However, a significant problem remains unresolved: the relationship and difference between qualitative and quantitative. This problem is already expressed in the very definition, where the word "whole" is used. It essentially expresses multiple parts, multiple factors, multiple properties and attributes, multiple relationships and connections, etc. Is the word "whole" a quantitative collective term? Despite all that has been said, it is a qualitative concept because it expresses a new quality arising from a mutually connected, diverse multitude-specifically synthesized. Therefore, all concepts, words, and statements that express synthesized qualities will be considered qualitative, and qualitative data can be acquired about them.

In research practice, we also encounter words like "multitude," "group," "good," "big," "tall," etc. "Multitude" certainly expresses a quantitative basis, just like "group," but they primarily express a quality that has arisen from the realization of a certain number of units. Therefore, we can consider them qualitative and acquire qualitative data about them. However, "multitude" does not lose its quantitative basis and, in certain contexts, can be a quantitative concept and express quantity. Quantitative concepts are well-known in logic, and we discussed them in the section on the logical foundations of methodology-the section on types of concepts. However, we will treat data related to this subject as qualitative-transitional whenever they do not specify a quantity and do not express a measure.

When defining and distinguishing qualitative from quantitative data, one should keep in mind that qualities can also be measured with parameters and certain types of scales, and that properties and attributes are suitable for being expressed with continuous data. For example, the property "good" or the characteristic "literate" can be expressed both verbally and numerically: "exceptionally good," "very good," "good," or with a grade numerically expressed as (10), (8), or (6). Essentially, these are qualitative data because their content is quality, but they also have the properties of quantitative data because they show certain dimensions, quantities, etc.

When acquiring and recording qualitative data, especially when talking about the forms of quality, they sometimes cannot be clearly distinguished from quantitative data. Some meanings of statements do not allow for it. For example, the statement: "Readers think (believe) that the articles in the political section of newspaper 'X' are easily readable," contains both qualitative and quantitative determinations in its meaning. Qualitative determinations are contained in the concept of "easily readable," while quantitative ones are in the concept of "readers," which is indefinite because it could mean "all readers" or "the majority of readers."

The problems of identifying and treating qualitative data are solved by the research project and the training of collaborators when it is important for the research subject, hypotheses, indicators, and data processing. Most often, researchers do not raise or consider this problem but proceed by creating appropriate instrumentation for data acquisition and preparing a data processing plan that they apply. However, in the creation of qualitative and quantitative classifications, typologies, and prognostic research, the correct identification of qualitative determinations of phenomena and qualitative data is significant.

2. The Specifics of Acquiring Quantitative Data

The quantitative aspects of social processes and phenomena do not appear independently; they serve to specify and concretize their qualitative dimensions. The manifestation of social phenomena and processes implies their temporal, spatial, and various dimensional determinations, which can be expressed verbally, numerically, and graphically. All these expressions describe quantities, magnitudes, durations, distances, frequencies, and spreads. The data used to express this are called quantitative data. They always appear in relation to and are connected with qualitative data. Quantitative data are primarily discrete, except when they express measures of a property or attribute obtained through the application of parameters.

The identification of quantitative data is easier because they are defined in advance by the methods of measurement incorporated into the data acquisition instruments, as well as by the "research methods" outlined in the research project. The greatest danger in distinguishing quantitative data is the misconception that every conceptual distinction or even every dichotomy is a form of measurement, which would mean that all data are quantitative. To prevent this, one should think about social processes and phenomena in the following order: a) what is it? b) what is it composed of? c) what are its properties and attributes? where is it? when is it? and how much is it? *Quantitative data* are data on quantities, magnitudes, spread, duration, and frequency.

3. The Problem of Connecting Quantitative and Qualitative Data

Qualitative and quantitative data are necessarily connected. *Qualitative data are essential and fundamental, while quantitative data are specific and conditional.* Qualitative data can display a social phenomenon or process on their own, but quantitative data cannot. However, a process and a phenomenon can be understood more fully, or completely, only by connecting qualitative and quantitative data and organizing them into specific orders. The necessary measurements are a key reason for the connection and synthetic observation of quantitative and qualitative determinations because you always measure *something*-a certain quality-and *with something*-an appropriate measure. Some words and concepts, although qualitative, contain necessary quantitative determinations within them. Take the expressions "ocean," "expanse," "economic power," "poverty," etc.; they cannot even be defined without appropriate quantitative concepts, quantification, and measurement. Therefore, in scientific research, the questions of 'what', 'how', and 'why' always appear simultaneously with the question of 'how much'.

A crucial problem with the joint treatment of qualitative and quantitative data is in discovering and establishing the transition of quantity into quality and vice versa. By analyzing the concepts mentioned above, we can easily discover that a certain quality becomes a quantity only when there is a saturated, critical mass of units of a certain type. Without a certain number of units in the sample, without a certain number of data points, the research is not representative, nor can its results be formed.

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1. Gud, V. - Het, P.: Metode socijalnog istraživanja, str. 16 -19.
2. Šešić, Bogdan: Osnovi metodologije društvenih nauka, str. 1, 198-199, 201 i 202.
3. Ristić, Živan: O istraživanju, metodu i znanju, str. 144 -146.
4. Milić, Vojin: Sociološki metod, str. 255-298.
5. Ibid., str. 339-350.
6. Pečujlić, Miroslav: Metodologija društvenih nauka, str. 121.
7. Ovaj dio teksta oslanja se i na prethodno izlaganje o osnovama za modele kvalitativnih i kvantitativnih istraživanja.

X - PROBLEMS OF MEASUREMENT IN SOCIAL SCIENCES

X - PROBLEMS OF MEASUREMENT IN SOCIAL SCIENCES

Contemporary methodology in social sciences, as well as in specific and special scientific disciplines, no longer questions whether social processes and phenomena can be researched and measured. Instead, it has reframed the question to how and when to measure them. This shouldn't be confused with accepting the view of quantitative approach proponents that anything not precisely measured and numerically expressed isn't scientific. Quantification and measurement are accepted as a necessary way of refining knowledge about the qualitative components of processes and phenomena through their temporal, spatial, structural, and other dimensional aspects.

An analysis of social phenomena and processes reveals that various processes and phenomena, and their various determinations, can be measured-but the measurements and metrics must be different, depending on the nature of the object being measured. The analysis of the research process also shows that measurement can be carried out at various stages and phases of the research.

The general concept of measurement in the social sciences is not controversial, despite differences in definitions among various authors. The essence of measurement is to determine the scope, multitude, distribution, frequency, duration, etc., of a given social process, phenomenon, property, and other determinations, using a pre-defined procedure and a specified, appropriate metric.[1)] Based on the procedures and metrics used, we can distinguish three basic types of measurement: (1) *exact measurement*, (2) *conventional measurement, and* (3) *intuitive measurement*. In practice, various modalities of each of these three types of measurement appear, as do certain variations, connections, and transitions from one type of measurement to another.[2)]

Exact measurement is based on the identification of natural, homogeneous units and their counting. This measurement allows for all arithmetic and mathematical procedures, and the measurement system assumes the existence of an absolute zero. However, this measurement does not include irrational numbers. For example, in the research we used as an example, readers, articles, journalists, etc., can be counted as natural units. In the mentioned research, a reader is not a natural unit but a subject whose characteristic is to read (a specific newspaper, a specific section). However, since every individual subject is both a social and natural unit, they can be counted as distinct wholes or units, and it can be stated that there are so many (N) units. Here, the metric is given naturally and is not determined in some other way. Still, the concept of a "reader" is socially defined-determined by social convention. The key is the metric that can be applied and how adequate it is.

Conventional measurement is one where the metric is established by social convention based on some natural determinations. For example, the meter as a measure of length is part of a meridian; a day or an hour is part of the time it takes for the Earth to rotate on its own axis; a degree of temperature is a metric based on the movement of a mercury column and the effect of heat on that movement, etc. The key differences between exact and conventional measurement are: a) the measurement procedure, b) the properties of the metric, and c) the nature of what is measured. The measurement procedure is based on comparing the quantity/dimension of what is measured with the unit of the metric (distance in meters, weight in kilograms). The metrics are artificial, established, and harmonized in some areas by social practice and agreement. The results obtained by conventional measurement can be treated mathematically and recognize both a conventional and an absolute zero. For example, when measuring temperature with thermometers using the Celsius or Fahrenheit scale, the zero on the scale is conventional, while absolute zero is the freezing point of mercury.[3)]

Intuitive measurements are the least reliable and least precise. Their basic forms are evaluation and estimation, and their metrics and procedures differ significantly from those of other types of measurement. First, the metrics are artificial, based on intuition, knowledge, and social experience. Evaluation and estimation of a situation are traditional methods of measurement that emerged with the advent of human society. However, with the development of human knowledge and other types of measurement, intuitive measurements have also evolved, becoming systematized, more reliable, and more accurate, though they have never achieved the accuracy and precision of exact and conventional measurements. In contemporary research, we can consider intuitive measurements to be those that are organized and rely on empirical and scientific knowledge, valid social standards, customs, and value systems, as well as on the results of exact and conventional measurements. In scientific research practice, they rely on scales as their metrics, on masses of statements that mutually correct each other (on the statistical concept of large numbers), and on authorities. It would be wrong to assume that every measurement must rely simultaneously and equally on each of these foundations. How much a particular measurement will rely on a specific basis depends on the concrete subject, goal, and situation of the measurement.

Every subject of research in the social sciences can also be a subject of intuitive measurement. As a rule, intuitive measurements are applied to measure attitudes, behavior, actions, social expectations, the intensity of desires, relationships and connections, satisfaction and dissatisfaction, social tension, knowledge, awareness, communicativeness and cooperativeness, social movements, social creation, production, and reproduction, etc. To more fully understand this type of measurement, it is necessary to examine the measurement of attitudes, the measurement of behavior, and the measurement of production and reproduction more closely.

The measurement of attitudes has at least two dimensions. First, how many subjects have identical, similar, different, or opposite attitudes toward some factor of social reality. Second, how each subject individually, as a group, as a community, etc., sees, understands, experiences, and values a certain state, situation, or trend. An individual's attitude primarily expresses the knowledge, beliefs, interests, position, expectations, and value system of that subject, but also of the group or community to which they belong-whether it's a smaller, wider, or the widest one.[4)]

Individuals can express their attitudes through their statements (oral, written, etc.) or their behavior (actions, etc.). The form in which an attitude will be expressed depends on the requirement to express it in a specific way, that is, on the chosen method for data acquisition. When measuring, we must decide whether we will measure attitudes that will be expressed at our request, attitudes that are expressed independently of our request, or both.

Individuals express their attitudes as their relationship to social reality by evaluating it according to the provisions of the value system they accept. They quantify and dimension it with a statement about how good or bad it is, favorable or unfavorable, desirable or undesirable, humane or inhumane, etc. This can be done in various ways and at various stages.

Therefore, the measurement of attitudes includes gaining knowledge about: (a) how many subjects have attitudes at all; (b) what kind of relationship, of what intensity and dimensions, those subjects' attitudes are.

For the measurement of attitudes to be as successful as possible, it is necessary to ensure at least two qualities: (a) a strict and clear definition of the subject being measured and toward which the subject is establishing a relationship of evaluation; (b) strict and clear definitions of the metrics. Thus, the definition of the subject (according to the example used, it must be clearly defined what a "political section article" is and described, and then what a "good article" is). Finally, it must be ensured that all participants in the measurement understand approximately the same thing by the term "good article." If this is not ensured, one must rely on the "average meaning" of the term "good article" and believe that everyone, or at least a large majority, knows and understands it equally. In the latter case, the validity and reliability of the measurement are far lower than in the first case.

The measurement of behavior is very complex and conditioned by: a) the subject's characteristics; b) the characteristics of the situation of behavior and measurement; and c) the characteristics of the purpose of the behavior. The basic premise is that different subjects in the same situations behave in approximately the same way depending on their motive, interest, goal, their consciousness (knowledge, conviction, belief), their emotions, and circumstances. The fundamental premise of this measurement is the existence of a "species consciousness" that influences the unification of behavior, as well as a consciousness of the reasons and probable effects of certain behavior. Behavior is, in principle, manifest and externally observable, so it can be recorded through observation. In addition, one can ask the subject how and why and to what extent (with what intensity, how many times, how often, etc.) they behave in a certain situation. Difficulties arise only when we specify what behavior is being discussed (the performance of work duties, family obligations, a hobby, behavior sanctioned by prescribed norms, etc.), whether it's about performing certain actions, passive behavior, or verbal behavior. Behavior encompasses very diverse activities; it has various forms, is public and secret, visible and hidden-and is motivated in various ways. If one wants to measure behavior, one must first strictly specify what is understood as behavior in the given case, what will actually be measured, how it will be recorded, and with what metrics it will be measured. It is understood that this is a matter of the research project-its "research method" section and the instructions for field work.

Once insight into a certain behavior is secured, it is not difficult to directly observe what actions and how many actions, in what place, for how long, and how those actions are performed. Taylor's research in the USA, aimed at shortening the time required per unit of work output, showed that it is possible to very effectively observe and measure the number of movements, their duration, the space required to perform them, etc. However, it is not possible to see and understand the motives, satisfaction, actual psychological and physical effort expended, the experience of one's own position, etc. Because of such factually forced work behavior, many intimate behaviors cannot be directly observed-or even measured. A second unresolved question of measurement through observation is the deliberate deviation from usual behavior, false, hidden behavior. A third such question is the disagreement between motives, aspirations, and goals on one hand, verbal behavior on the other, and factual behavior on a third. Also, the relationship between voluntary, free, and forced behavior has not yet been successfully measured, especially during periods of very significant social change and the ability to adapt to them, nor is there a visible possibility of building a truly reliable measurement system for this in the social sciences. The standards developed by psychology, although very useful, do not solve this problem in the social sciences. This problem remains even when the measurement of attitudes and the measurement of behavior are successfully connected.

The measurement of social production and *reproduction* is necessary but also very unclear, especially from the standpoint of the subject matter and social roles of some special social sciences. For example, in economic sciences, it is clear what production, reproduction, and expanded reproduction are, and the metrics for "per capita income" are clear. However, the metrics for the value of money-which appears as an expression of value-are less clear. It is also clear how to measure birth rates, population movements, etc., in demography. But what is the subject of measurement in the sphere of social production and reproduction in sociology, political science, law, education, social work, etc.? What are the valid metrics in the relationship between more comprehensive and complete regulation and human freedom, and the ever-increasing and wider possibilities for some versus the ever-decreasing or very limited possibilities for others?

Seeking answers to these questions, we have arrived at two undeniable conclusions: first, many questions posed in this area of society and science cannot be answered without the great engagement of philosophy and scientific theory, logic, and methodology, which must study the subject matter more deeply and responsibly; second, when designing and implementing any research within any social science or scientific discipline, a strict definition of all concepts must be carried out and at least two essential moments must be established: first, the communicability of the concept and term with social reality and the determinations of the theory; second, the manifestations that can be measured must be discovered, and the way in which this can be done must be determined. This is not a demand for a complete abandonment of research routine but an indication of the necessary relationships between theory, theoretical, and empirical research.

The previous exposition has shown that measurement in the social sciences is carried out at various stages and phases of creating a research project (including conceptualization and reconceptualization), during pre-research and research implementation, during data processing and analysis, and during the drawing of conclusions and the presentation and use of research results. For us, two stages are essential: the stage of research implementation and the stage of data processing and analysis, including drawing conclusions.[5)] The other stages can be considered preparatory and auxiliary.

1. Measurement During Research Implementation

The actual preparation for measurement during the implementation of empirical research through fieldwork begins with an analysis of the individual working hypotheses, which reveals the variables that can and must be measured, as well as the necessary and enabling indicators. This process identifies the data collection method that offers the greatest potential and the most appropriate type of measurement.

The second phase involves the development of the instrumentation for the selected data collection methods. This phase unfolds in three stages. First, it is determined for the verification of which hypothesis statements quantification is essential, and what type of measurements are required to obtain the necessary data. The second stage involves the design of the measuring instrument and the specification of measurement procedures, followed by their integration into the instruments of the research methods. The third stage entails the harmonization of all instrument parts and the compatibility between the instruments that will be used in the research.

Two situations are typical: in the first, both instruments measure the same construct, serving a control function and operating in an interdependent relationship; in the second, a division of labor occurs, where each instrument is entrusted with a different object of measurement that better corresponds to its capabilities, depth, and reliability.

Finally, we must note the fact that in the social sciences, as well as in practical life, measurement utilizes measures characterized by their naturalness and foundation in natural units that are discrete and whole, and parameters whose essential characteristic is that they are empirically-intellectual artificial constructs accepted through scientific, professional, and social conventions.[6)] Factors of a material nature with direct manifestations in society are closer to true measures than are intellectual, spiritual, and emotional parameters. We can relatively easily count the number of people per unit of time and space, the number of newborns or deaths, the number of employees, members, voters, buildings as material creations, the number of books, etc. However, we cannot "count" or measure with a standardized measure (meter, kilogram, etc.) how beautiful, just, desired, or good something is. There is no standardized measure for this type of measurement on which a general or majority consensus exists. This is the reason why parameters are constructed, based on measures, experience, knowledge, and value systems.

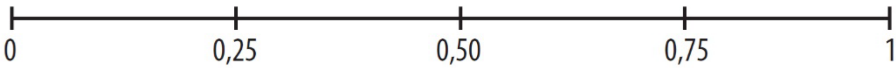
Measurement during research is performed simultaneously through two procedures: a) identification of the subject by establishing that it is a unit of observation (which later allows for counting); b) measurement of its socio-demographic characteristics using certain pre-established scales (e.g., sex - nominal scale; age - conventional measurement; ownership - conventional and exact measurement, e.g., of buildings, cars, hectares of land, etc.); c) establishing and measuring attitudes, behavior, etc. using the adequate scale incorporated into the instrument.[7)]

These scales serve as the basis for measurement during data compilation, processing, analysis, hypothesis testing, and conclusion drawing.

2. Scale Development

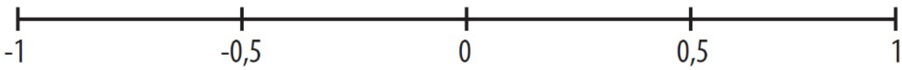
The concept of a scale is based on the understanding that certain social activities, characteristics, processes, etc., occur continuously or successively, and can therefore be conceptualized as a line that expresses this.[8)] This line can be conditionally bounded by selected lowest, middle, and highest points. The lowest point, which may also signify the absence of the phenomenon or characteristic, is labeled zero, and the highest is labeled 1 (unity). This defines the range within which all dimensions-magnitudes, quantities, etc.-of the measured object are placed. In the subsequent procedure, this line is divided in half, and then each half is also divided into two parts. This procedure is repeated until the required number of parts is obtained, with all parts being equal; in principle, they indicate equal magnitudes of differences-i.e., "degrees."

For example:



This is a unidimensional scale because it indicates movement in only one direction. This scale can express and measure either only positive or only negative orientations. However, there are also bidimensional (two-way) scales which simultaneously show both positive and negative orientations. On bidimensional scales, the designation '0' (zero) is not formally the starting and lowest operational value; rather, it represents the middle, neutral value.

For example:



It is important to know that the values obtained by the scale cannot be added, subtracted, divided, or multiplied!

Scales derived from this principle can be expressed or constructed in various ways: verbally, numerically, etc. The best-known and most frequently used scale in research is the Likert scale, which consists of five points (or members): two positive, one neutral, and two negative. This scale was extended to seven points by F. Džinić and Pantović.

The Likert scale, when measuring attitudes towards articles in the political section of the newspaper 'X' (the example used in this book), could look like this:

(1) The articles are very good (informative, interesting, etc.);

(2) The articles are good (informative, interesting, etc.);

(3) The articles are so-so, "somewhere in between";

(4) The articles are poor (uninformative, uninteresting, etc.);

(5) The articles are very poor...

In some cases, it is justified to introduce two more scale points, which increases its sensitivity.

The essential definition of scale sensitivity is easily formally (not to say formally) defined as the ability (suitability) of the scale to encompass the widest possible spectrum of properties and quantitative determinations, as well as the smallest and most subtle transitions. However, scales used for measuring attitudes are either based on observations or rely on statements from the subject-at the scale's request. According to current knowledge, this sensitivity encompasses five to seven points.

The development and application of scales is a highly complex task where series of qualitative factors, expressed as attributes, are converted into quantitative sequences expressed as variables. However, in the social sciences, much data appears as qualitative variables, which must then be converted into quantitative sequences. In this process, we encounter several problems, the most important of which are:

A) *Identification of the Continuum*

Scaling presupposes the existence of some continuum, which allows only logically connected objects to be included in the same scale. Therefore, the following are essential in defining the continuum: (a) logical analysis of the hypothesis; (b) adequate knowledge of the nature of the mass that will be scaled; (c) awareness of the genuine existence of the continuum and the necessary representativeness.

B) *Reliability of the Scale*

A reliable scale is one by which the same results are obtained when reapplied to the same sample. Here, we encounter a significant problem caused by social variability and mobility. First, it is very difficult to maintain an identical sample, and second, members of the same sample can change their attitudes in a short time. Therefore, one should not expect either an identical sample or identical scale results, but only approximate-predominantly similar-results, while taking factual social circumstances into account-especially if drastic changes have occurred.

It should be added that the scale must be calibrated-tested.

The reliability of the scale can be measured, depending on the scale type, by one of three methods:

a) *Test-retest*, which involves applying the scale twice consecutively to the same population and then comparing the results, i.e., determining the correlation between them. The biggest drawback of this method is that subjects being tested for the second time are already familiar with the test (scale).

b) Method of *parallel forms*, which involves constructing two separate forms of the same scale and applying them sequentially to the same sample. High correlation between the forms is also sought here, and the drawbacks are the same as with the test-retest method.

c) The method of the *split-half scale* is considered the most suitable. The simplest approach is to divide the scale into odd and even numbers, thus yielding two scales-which is only possible if the numbering in the scale does not involve a systematic principle and if the halves can be taken as representatives of the whole. The scale must have empirical proof that it is a coherent whole and must have between 16 and 20 items.

Research experience also points to a fourth method-the simultaneous application of the scale to a main group and an adequate control group, following the model of an experiment. This would avoid the problems and difficulties of the three preceding methods.

C) *Validity of the Scale*

The validity of the scale is the relationship between the object of measurement and the scale's actual applicability to it. Two questions always arise in this regard: 1) Does the scale truly measure the object of measurement? 2) Does it measure exclusively that object, or something else as well? Even today, the issue of validation has not been adequately resolved, although four methods of validation exist: a) Logical validation (which is always resorted to); b) Jury (expert) assessment which is applied in a certain way through discussions within the research team; c) Method of "known groups"-which involves drawing conclusions based on the attitudes of opposing groups (groups opposed in terms of value systems-"believers" vs. "atheists"); d) Method of independent criteria, which is difficult to apply because the scale relates to a specific whole, but is verified by a particular part (or parts) of that whole.

It seems to us that conscientious and responsible conceptualization and planning of research, as well as project testing and pre-research, better resolve validity issues than the methods listed.

D) *Nature of Scale Items and Assessment of Individual Items*

In principle, the items in the scale should ensure that they faithfully express the forms of behavior of the subjects-objects of research-and their properties, characteristics, etc. There are two types of items (questions) in scales: directive and projective. Directive items "structure the situation," often arbitrarily, and cannot be considered sufficiently valid instruments in such cases. They function as insufficiently stimulating, and in some cases, as limiting. In contrast are the unstructured items-projective items-characteristic of non-directive, free interviews.

Not all items in a scale are (or must be) of equal importance. Scales typically represent sequences of qualities whose combination forms the scale. To prevent the scale from being burdened with less important or even unimportant items, an effort is made to determine the "weight" or significance of each item. The purpose of measuring the significance of scale items is to ensure the most accurate measurement of the continuum, and thus the methods for their measurement are similar to those of validation. Three methods are mainly used: a) Method of known groups; b) Method of independent criteria; c) Method based on the effects the scale has already achieved. Namely, if a scale has proven effective, its items are considered valid.

E) *Equality of Units*

In scales, which are primarily ordinal in nature because they involve the ordering or ranking of units on a continuum, two questions remain open: a) Is one unit higher or lower on a scale? and b) How much higher or lower is it than another? The problem lies in the cardinal use of numbers, which permits arithmetic operations (addition, subtraction, etc.). It is generally held that no scale in the social sciences-more precisely, in sociology-meets the conditions for the cardinal use of numbers. For a valid scale, it is not necessary for it to start at 0 (zero) nor for its units to be equal.

William Goode and Paul Hatt, in their book "Methods in Social Research," pp. 229-278, list the following scaling techniques: Social Distance, Sociometric Scales, Rating Scales, Ranking, Scales of Internal Consistency, and Scalogram Analysis. They also specifically address the issues of demographic research.

The scales most commonly practiced here (in our region) are the Scales of Internal Consistency, specifically the Likert scale, and to some extent, the Thurstone scale, while one of the earlier and more stimulating is the Bogardus Social Distance Scale. We will therefore separately present the

Social Distance Scale by Emory S. Bogardus, followed by the Sociometric Thurstone Scale and the Likert Scale.

The Bogardus Social Distance Scale

Bogardus's research on social distance was conducted by surveying 1,725 Americans who provided answers to the following question: What is your relationship with ethnic minorities such as the English, Swedes, Poles, and Koreans? Respondents could select one of seven possible answers: 1) for close kinship by marriage; 2) for members of my club; 3) for neighbors on my street; 4) for work in the same occupation; 5) for citizenship in my country; 6) only as visitors to my country; 7) I would exclude them from my country.

The results of this research are presented in a table showing that the English were the most accepted (answers to questions 1–5 received scores ranging from 93.7 to 97.3). The Koreans fared the worst, with their highest score being 47.1 for answers to question 6. This scale has many shortcomings, ranging from the items themselves-the relationships, their definition, and their mutual connection-to the method of calculation. The social distance between points on the scale (from 1 to 7) is not equal; points 5 and 6 are eliminatory, meaning one can only select that single answer. Furthermore, the calculations do not allow for mathematical operations because there is no true zero, and so forth.

However, this method, which is difficult to apply validly to qualitative and abstract determinations, is more successful when quantitative determinations are used. An attempt to research the relationship between family size and apartment size proved successful. A modernized Bogardus scale can still be useful.

Sociometric Measurement

Sociometric measurements also fall under social distance scales but involve a radically modified procedure. The fundamental difference from earlier methods lies in the subject matter, as sociometry deals with the attraction and repulsion of subjects within a small group and with group structure. It is applied to informal (small) groups, school classes, prisons, various organizations, military units, companies, and institutions, etc.

Helen Jennings, a collaborator of J.L. Moreno, the creator of sociometry, characterized the sociometric test as follows: The form of the sociometric test, as applied so far, has three characteristics:

1. A specific number of choices is allowed, which varies depending on the size of the group being tested.
2. A specific criterion for selection is given, depending on the functional activity of the group.
3. Different degrees of preference are provided for each choice. The selection situation should have some practical meaning.

Jennings's study, "Sociometry in Group Relations," is cited as an example. In one classroom, each child was allowed to select three other children in a specific order. The criterion was inclination-the desire to study with them in a group. Without intending to criticize the procedure, we must note that some students do not like studying with others. Situations that may arise during selection include: a) unilateral choice; b) bilateral choice; c) uneven multiple-choice. "Stars" (chosen by multiple group members) and "outsiders" (chosen by no one) may appear, just as it is expected that some individuals may not choose anyone. However, the main challenge in the example cited is that there is no way to prevent the influence of other factors-e.g., general popularity-on the choices.

The sociometric measurement procedure generally proceeds as follows: 1. Selection of the group; 2. Selection of the research subject-the "task-criterion for selection"; 3. Drafting of instructions; 4. Stimulation-initiating choices according to the instructions using prepared instruments (lists, forms to be completed); 5. Processing of collected data and drawing conclusions.

During data processing, we can apply tabulation or a sociogram, which correspond to descriptive or graphic techniques, respectively.

This method is highly suitable for ranking individuals on a continuum of "acceptability" or for identifying members who "deviate from the group."

Rating Scales

This is a widely used scaling procedure, not only in research but also in professional practice (e.g., teachers and professors grading students' knowledge with numerical marks).

Three elements constitute this technique: the rater, the phenomenon/object being rated, and the continuum along which the phenomenon is assessed.

The following problems arise during the application of this technique: 1. Selection of raters (how many, whether they should be representatives of the population or experts); 2. The continuum and the choice (graphic or descriptive techniques); 3. Application and conclusion drawing.

Ranking Scales

This scaling technique is similar to the rating scale. It encompasses two forms: The first is *paired comparison*, which is a simpler form and consists of providing two initial data points (e.g., two occupations), a continuum, and a question for the rater about which is better, greater, or more significant, followed by the respondent's (or respondents') answer. Problems only arise during the processing-the calculation of results using "scale-value" or the Guilford method.

The second, and for us more significant, method is the method of *seemingly equal intervals*, which is often considered the Thurstone technique and a scale adaptation. The best-known example is the development of a scale to measure attitudes toward the church. This procedure is important and essentially represents a transition from ranking scales to scales of internal consistency.

Thurstone and Chave, modeled on some previous psychophysiological research, began the development of a scale with 130 statements about the church, using six main criteria: 1. The statement should reflect the subject's current attitude as much as possible; 2. Each statement should express only one idea or viewpoint as much as possible; 3. Avoid items in the scale that apply to a negligible number of respondents; 4. Every item should be potentially acceptable to subjects at both the high and low ends of the scale; 5. Statement items should be as unambiguous as possible and not allow for subsequent multiple interpretations; 6. Avoid jargon unless there is a specific purpose.

The raters compare all 130 statements with each other to determine which ones are more or less favorable to the church. Due to the excessive demands (each rater would have had to make 8,385 judgments), the procedure was modified by adopting the *principle that the continuum is divisible into any number of equal intervals*. Thus, 300 subjects were tasked with sorting slips containing statements about the value of the church into 11 groups alphabetically-from A to K. First, three groups-positions-were formed: A-from slips expressing the strongest affirmation of the church's value; F-from slips expressing a neutral position; and K-from slips expressing the lowest position-the weakest affirmation of the church's value. The remaining slips were to be distributed into the other eight positions (letters B, C, D, E, F, G, H, I, J).

In this specific case, the procedure resembles rating, but each item is ranked in relation to every other item instead of by applying an abstract (or arbitrary) scale.

This is followed by determining the scale value of each item through the median position reached by the ratings of the group of assessors. The graphic technique is suitable for this purpose.

Next, the final scale is constructed by selecting the items that will form it, while excluding ambiguous items and ensuring the entire scale range is covered. Quartiles (Q) are used in establishing the items-the smaller the Q, the clearer the item.

The application of this scale involves: instructions on the procedure, the scale (whose items do not have to be in a defined order), and the reduction of results. The individual's score is equal to the average of the values of the items on the scale that they endorse.

The main problems in the development and application of this scale are: defining the continuum, selecting the items, the number and characteristics of the assessors, and the amount of work (and resources) required.

Scales of Internal Consistency

The essential difference between the technique for developing the method of seemingly equal intervals (Thurstone) and Scales of Internal Consistency (Likert) is that the raters are replaced by the subjects being studied, who then express their views on all the statements. Subjects no longer only endorse items with which they agree; they also respond to items with which they disagree.

Thus, the minimum number of responses is three (agree, undecided, and disagree). If a measure of intensity is added, the number of possible responses increases to five: strongly agree, agree, undecided, disagree, and strongly disagree. When applying a scale of internal consistency, the subject is asked to place a mark next to the response that is closest to their own attitude. In this way, every former statement becomes a scale, and the scale of internal consistency transforms into a battery of scales. It is no longer necessary to start with a large number of items (as with Thurstone). The observation is accurate: "If every item is a scale, and the total score from several items is a measure of attitudes," a large number of items is not necessary.

The problem of selecting and formulating items remains, but it is solved according to the rules of the Thurstone technique: one starts with more items to arrive at the required number. The scoring of items is performed by simple numeration from 1 to 5 if there are five response varieties, starting from the most favorable or, conversely, from the most unfavorable response. Questions regarding the weighting (value) of items and each modality within the items remain.

The standard empirical answer is the application of the standard deviation of distributions to each item. However, results obtained in this manner, at least according to the calculations of Likert, Murphy, Rundquist, and Sletto, do not justify the effort involved.

A characteristic of a valid scale is its discriminatory power-its ability to distinguish people at the upper and lower ends of the continuum. In constructing the scale from a preceding pilot sample (at least 100 subjects), discriminatory power can be calculated by using quartiles (those falling above Q1 and those falling below Q3).

The scale of internal consistency is widely applied in techniques such as "Self-Administered Questionnaires," "Story Interviews," "The 'Eavesdropping' Technique," "Pictures as Indirect Stimuli," "Study for Prediction," and "Value Scaling."

Without entering into a deeper critical analysis of the internal consistency scaling technique, we must point out two major criticisms directed at it: 1. It is often multi-dimensional; 2. It can only provide a crude measure-and what it truly measures remains an open question. Despite these criticisms, the Likert five-point scale of internal consistency remains the most affirmed, and this type of scale has proven to be the most productive in measurement based on the continuum principle.

It is true that questions regarding the definition of the continuum, the selection and weighting of items and their modalities, ensuring validity, etc., are always being raised again, but these are addressed during the research design-specifically, during the development of the research methodology section, the creation of the instrumentation, and during pilot testing (pre-research). Since the inception of the scales discussed (from 1934 onward), they have been applied and analyzed many times, and there is a wealth of methodological knowledge and research experience for their valid construction and application. One key insight is that the limitations stemming from the characteristics of conscious, willful, creative, and changeable human beings cannot be avoided. Another is that even the most complex calculations do not resolve the problems of validity and item weighting, nor do they ensure the absolute repeatability of measurements or the results obtained from applying certain scales to a specific problem. What is objectified is not necessarily objective.

Scalogram Analysis

Most scales constructed so far that are applicable in the social sciences are "multidimensional," which makes them imprecise, whereas the goal is a "unidimensional" scale. The attempt at measurement using "factor analysis"[9)] was not accepted because it measures quantitative correlation coefficients, while scaling is the process of classifying qualitative characteristics. Nevertheless, the question is justified: Are not correlation coefficients merely a quantitative expression of certain qualities and their relationships?

The scalogram is the product of the work of Guttman and Lazarsfeld, and it is based on the idea of a statistical mass as a unidimensional whole that can be scaled. How truly founded this idea is can perhaps be seen from the following example, which Guttman presented while discussing the Cornell Technique. In relation to Louis Adamič's book, "A Nation of Nations," he posed seven questions to students:

1) "A Nation of Nations" provides a good analysis of ethnic groups in this country.

☐ 4. Strongly Agree ☐ 3. Agree ☐ 2. Undecided

☐ 1. Disagree ☐ 0. Strongly Disagree

2) Overall, "A Nation of Nations" is not as good as most textbooks.

☐ 4. Strongly Agree ☐ 3. Agree ☐ 2. Undecided

☐ 1. Disagree ☐ 0. Strongly Disagree

3) Adamič organizes and presents the material very well.

☐ 4. Strongly Agree ☐ 3. Agree ☐ 2. Undecided

☐ 1. Disagree ☐ 0. Strongly Disagree

4) As a sociological writing, Adamič's book has no particular value.

☐ 4. Strongly Agree ☐ 3. Agree ☐ 2. Undecided

☐ 1. Disagree ☐ 0. Strongly Disagree

5) Adamič does not cover any single group in enough detail for a student to gain a real insight into the problems of ethnic group relations in this country.

☐ 4. Strongly Agree ☐ 3. Agree ☐ 2. Undecided

☐ 1. Disagree ☐ 0. Strongly Disagree

6) By providing a panorama of different groups, "A Nation of Nations" allows a student to gain a good general overview of ethnic group relations in this country.

☐ 4. Strongly Agree ☐ 3. Agree ☐ 2. Undecided

☐ 1. Disagree ☐ 0. Strongly Disagree

7) "A Nation of Nations" is good enough to be retained as a textbook for this course.

☐ 4. Strongly Agree ☐ 3. Agree ☐ 2. Undecided

☐ 1. Disagree ☐ 0. Strongly Disagree

The scale analysis involves eleven stages; the weights are set from 4 to 0, and each respondent can obtain a score ranging from 0 to 28. The table provides a complete display of all students' responses to all seven questions.

Here, the *statistical mass* is the scale (i.e., all students questioned), and the order in which the individuals are placed is the scaled rank. Thus, calculation follows.

Without delving into all the problems of this scale's application and nature (such as the function of "reproducibility"), we can conclude that it is almost inapplicable to large groups, requires a minimal number of items, and uses "structural," "directive" questions that ask for agreement and disagreement, which other scales facilitate more easily. Based on the same idea, any collection of data could be defined as a "mass" and treated as a "unidimensional whole." If we are investigating a social phenomenon rather than the individual, knowledge about every single individual is not essential-especially if the "mass" is the same as the class. This type of scale has not gained wider acceptance due to the difficulty of its application.

3. Scales in Contemporary Research

The presented evolution of techniques for developing and applying scales, understood exclusively as the arrangement of qualities on a continuum and their conversion into quantitative sequences, is highly instructive and inspiring. Contemporary research is not satisfied merely with knowledge about differences, properties, and the like; the question of "how much" is always present. To satisfy these needs, four types of scales have been established:

1. *Nominal scales*, which express only the existence of a property, but neither order nor dimension.
2. *Ordinal scales*, which show order or rank, but do not indicate the distance between one unit and the next. The content of this scale is best expressed by words such as first/second, largest, best, etc., which speak of a difference but do not determine its magnitude. Nominal and ordinal scales are not based on the existence of a true zero and therefore cannot be linked to continuum measurements or parameter measurements.
3. The *Interval scale* is based on a conventional zero and demonstrates specific distances by means of equal units-intervals. For example, this scale can measure that subject "X" arrived first, and that subject "Y" arrived after them-two minutes later. This scale can also be applied to measure the volume of articles in the political section of newspaper "X"-by measuring the duration of reading time by readers.
4. The *Ratio scale* is based on a true, absolute zero and implies exact measurement-measurement using factual natural units and their counting. In social measurement, except when only the individual is concerned, we simultaneously and concurrently apply this scale as well.

Whether we intend to or not, we always answer two questions: first, how many subjects behave, hold an attitude, possess properties and characteristics, etc.; and second, what is the nature of the attitude, property, characteristic, etc. Linking scales exclusively to continua in the attached meaning does not seem justified to us.

Specific statistical procedures for data processing are associated with each of the aforementioned types of scales. Since data compilation, processing, and analysis also require many significant measurements, some of which are determined by the measurement conducted during the research, the topic of measurement will be addressed again.

In conclusion, we can summarize the following:

1) Measurement in the social sciences begins from the moment of planning and sample formation.
2) The type and mode of measurement, as well as the measures used, are determined on one hand by the nature of the subject matter and the research objectives and, on the other, by methodological-technical knowledge.
3) According to the very broad definition of measurement-whereby every determination of similarity and difference, position, relationship, and even every naming constitutes measurement-it should be borne in mind that every classification is indeed an intuitive measurement.
4) There are multiple types of scales as measuring tools, and the techniques for their construction are diverse. It is desirable to use scales that are proven, suitable, valid, and reliable, but scales can also be combined or new ones constructed.
5) The following are crucial for all scales: 1. strictly defining the objects of measurement; 2. validly establishing the scale items and their structure; 3. ensuring a sufficient number of scale points but also their discriminatory power; 4. testing and calibrating the scale.[10)]

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1. (1) Đurić, Mihailo: *Problems of Sociological Method*, p. 99.
(2) Ristić, Živan: *On Research, Method, and Knowledge*, Institute for Educational Research, Belgrade, 1995, p. 368.

2. (1) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Political Science*, DAX - Tarde, Sarajevo, 1999, p. 487.
(2) Milosavljević, Slavomir - Radosavljević, Ivan: *Fundamentals of the Methodology of Political Sciences*, Službeni list, Belgrade, p. 582.

3. Conventional measurements have a specific characteristic: some conventional units of measurement (meter, kilogram) allow for arithmetic operations, while some (degrees of temperature) do not. Two kilograms is twice as much (1+1) as one kilogram, but 10^0 (ten degrees) is not twice as warm as five (5) degrees.

4. Vujević, Miroslav: *Introduction to Scientific Work*, Informator, Zagreb, 1988, pp. 85, 102.

5. On methodological-methodic and general logical standpoints, see:
(1) Šešić, Bogdan; *Fundamentals of the Methodology of Social Sciences*, p. 21.
(2) Cohen - Nagel: *An Introduction to Logic and Scientific Method*, Institute for Textbook Publishing and Teaching Aids of the SRS, Belgrade, 1979, pp. 301-343.
(3) Popper, Karl: *The Logic of Scientific Discovery*, Nolit, Belgrade, 1973, pp. 94, 183, 187, 197, 209-211.

6. (1) Krneta, Miodrag: *Statistics for Sociologists*, IPO Ekonomika and the Economics Institute, Belgrade, 1987.
(2) Krković, Anđelko: *Measurement in Psychology and Pedagogy*, Institute for Textbook Publishing, SRS, Belgrade, 1964.

7. On the fundamentals and procedure of measurement, see:
(1) Goode and Hatt: *Methods in Social Research*, Vuk Karadžić, Belgrade, 1966, pp. 219-222, 256, 293-298.
(2) Lekić, Đorđe: *Methodology of Pedagogical Research and Creativity*, Institute for Textbooks and Teaching Aids, Belgrade, 1980, pp. 133-134. (3) Pešić, Mihailo: *Introduction to Sociology*, RO Institute for Political and International Studies, Belgrade, 1985, pp. 128-132.

8. For a detailed discussion on scaling, see: (1) Goode and Hatt: *Methods in Social Research*, pp. 219-322. (2) Mihailović, Dobrivoje: *Methodology of Scientific Research*, FON, Belgrade, 1999, pp. 194-195.

9. In the social sciences, "factor analysis" can be considered a data processing method that relies on a multivariate processing method. Its essential technique is matrix calculus. It is discussed in detail in the book by Ante Fulgozi: *Factor Analysis*, Školska knjiga, Zagreb, 1984.

10. One cannot learn enough about measurement in the social sciences without a careful study of:
(1) Nikolić, Mihailo: *Measure and Sociometrology*, Hegel Society - Ekumena, Belgrade, 1992.
(2) Marković, Mihailo: *Philosophical Foundations of Science*, SASA (Serbian Academy of Sciences and Arts), Belgrade, 1981. Especially pp. 450-493.
(3) Timotić, Milan: *The Auditorium of the Informative and Belgrade Program*.
(4) Knežević, Branislava: *Measuring the Role of Education in Resocialization*.

XI - DATA PROCESSING

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The term "data processing" encompasses all activities related to the control and organization of available data obtained through various scientific methods, their grouping, classification, and presentation, as well as the assessment and analysis of the data.

Data processing is carried out according to a data processing plan, in line with the tasks and objectives of the research, and aligned with the properties of the data. Various methods are applied in this process, with multivariate analysis being the most widespread. As a rule, data in contemporary research is meticulously processed statistically, which also implies appropriate measurements that begin with sample verification. The tasks in the phases mentioned at the beginning of this chapter can be performed manually, mechanographically, and with the use of computers.

1. Manual, Mechanographic, and Computer-Based Data Processing

The very names of the processing types indicate that: 1. manual processing refers exclusively to the direct labor of research project collaborators, whom we call processors, without the use of special machines; 2. mechanographic processing is considered to be one in which collaborators-processors use special mechanical machines or devices. This does not include various sound, human, and image recordings, which serve as auxiliary tools. Mechanographic processing is completely outdated and has been replaced by 3. computer-based processing.

1. *Manual processing*, at the current level of research development and equipment, is unavoidable even when computers are used. It can be the sole method, a preparatory one, or a supplementary-corrective one. Manual processing may be the only method if another type of processing is not cost-effective, if it is more expensive, or if it requires more energy, time, and material-financial resources.

The components of manual processing include the following parts:

A) Reviewing record forms (survey questionnaires, observation protocols, etc.), counting them, and determining their usability;

B) Preparing cumulative, summary forms, creating "worksheets" and other necessary forms. In cases where a computer is used alongside manual processing, or in the case of computer-based processing, the computer program is prepared manually;

C) Tallying data according to specific characteristics by transferring them to cumulative "worksheets" or "work forms" and performing calculations;

D) Classifying data according to the necessary criteria;

E) Tabulating data and performing further necessary statistical processing;

F) Creating graphical forms for data presentation;

G) Performing other actions that prove necessary;

H) Filing and storing the original and other research materials.

The most sensitive and complex tasks that can be sources of major errors are tallying, classification, and calculations, which require great concentration, conscientiousness, and appropriate knowledge.

Manual processing, when performed by appropriate personnel, successfully identifies, points out, and eliminates not only technical but also conceptual errors, and is thus suitable for discovering "armchair" and "systematic" errors.

2. *Mechanographic processing*, with the development and spread of computers, has become less suitable and unnecessary, and thus we will not discuss it. Its essential feature was the use of mechanographic machines, particularly for performing computational tasks, punching cards, and the like, which is superfluous in an age where modern computers are available.

3. *Computer-Based (Computational) Processing*

In the modern world, computers in research are not used only in the data processing phase.[1)] On the contrary, their use begins immediately with the inception of the initial research idea, that is, as soon as a problem is identified. The existence of computer systems and the established "Internet" simply imposes the need to quickly search existing databases and, through "websites," conduct necessary consultations to form a valid basis for approaching conceptualization.

During the conceptualization and development of the research project, the computer is used for research, cognitive, and technical purposes. By means of a computer, we can relatively easily obtain overviews of previously formed solutions, lists of concepts and terms, definitions, subjects, objectives, hypotheses, indicators, processing methods, and statistical procedures, etc. It is particularly useful in the creation of scales, that is, measurement instruments.

It (the computer), as a technical tool, "remembers" our various ideas and recorded statements, allowing us to express our thoughts without erasing, cutting and pasting paper, and without so-called "bedsheets" [large, cumbersome drafts]. With it, we can also print text with all the necessary illustrations. In this case, by "printing" we do not only mean standard printing using letters and other visual signs.

The computer can also be used during data collection in one of two ways. The first, less common way, requires a highly developed corresponding network, the possession of the necessary number of "laptop" computers (portable computers), and a central computer with adequate capacity. Then, during surveys, interviews, document analysis-and even in some observations-data can be entered directly into the portable computer and transferred via the network to the central computer.

The second way is for the collected data to be transferred to the central computer at a specific, pre-reserved time.

Understandably, for our current conditions, this is very expensive equipment that research institutions do not possess, nor do they have the appropriate personnel. On the other hand, the described equipment significantly shortens the time and reduces the costs of data collection, while increasing the accuracy and precision of the obtained data.

During the technical and logical control of forms with collected data, the computer acts as a selector based on programmed criteria. However, there are situations in which supplementary manual processing is also necessary.

The possibilities of using computers in the other phases of processing depend on three factors: the researcher's ability to set tasks for the programmer/computer; the programmer's ability to create a suitable program; and the properties and capacity of the computer. Most modern personal computers have the necessary capacity. However, conceptualization, research design, data processing, hypothesis testing, etc., will not be done on a personal computer, but on a central, business computer.

For the described use of a computer, in addition to owning one, at least the following conditions are necessary: knowledge of the computer's properties; knowledge of basic computer operation; and knowledge of at least the most widespread computer "language" - Windows.

The use of computers in scientific research deserves a much broader treatment and corresponding research, especially since they enable the creation of necessary models and appropriate lexicons.

2. Data Control

Data control is the first phase in data processing.[2)] This term refers to all actions aimed at establishing the correctness of the available instruments containing the data, as well as the technical and logical correctness of that data. This usually involves two types of control: a) technical and b) logical control, as well as two sub-phases of the control procedure.

The control procedure effectively begins with determining the realization of the research sample. It consists of two layers. The first layer involves counting and identifying the subjects actually included from the sample list or the documents planned in the sample. When dealing with a sample of subjects, the number, territorial distribution, and affiliation with a specific social group are determined. The sample of subjects is considered realized if the attrition for each of these characteristics was not greater than 10% (ten percent). The second layer of determining the sample's realization is establishing the number of available instruments that contain usable data, according to the aforementioned criterion. For the realization of a document sample, in addition to the number criterion (10%), the significance of the documents also applies. If even one essential document has not been studied, the sample cannot be considered realized. In exceptional cases, if a competent assessment has been made by an expert team, a sample with even greater attrition may be accepted, but a sample with more than 15% attrition is considered distorted. A distorted sample also yields distorted research results.

In the data control procedure, we distinguish between data control during the research-preventive control-and data control after the research has been completed. The task of data control is to detect errors, classify and assess them, and, within the limits of possibility, eliminate or mitigate them.

We consider *preventive data control* to be more productive and functional than post-control. The reason for this is that it is easier to repeat one interview (even with a different 'reserve' subject) than to subsequently solve the problem of accumulated errors, and because a timely warning prevents the repetition and accumulation of errors.

Control during the research is most often achieved in the following ways: a) by forming a network of qualified controllers; b) through the daily submission of used instruments (e.g., questionnaires) and their immediate verification; c) by designing instruments that are clear, logical, and easy to handle; d) by embedding control questions or control sections. If a computer is used, this is resolved with an appropriate program. This applies to both technical and logical control.

The task of *technical control* is for a competent controller to inspect and detect technical errors, to mark them, determine their properties, and, where possible, eliminate them. It is the duty of the controller to inform the research leader about the number and characteristics of the errors so they can be assessed and further measures can be agreed upon. The most common technical errors are: writing in the wrong place, leaving fields incomplete, illegible writing, etc. More serious errors include leaving large content gaps-partially completed instruments. As a rule, it is difficult or impossible to fill in the empty parts of an instrument later. Instruments with large gaps are set aside, and a decision about them is made once it is determined how many there are and what these gaps pertain to. In some cases, they are treated as if they contain average data. As a rule, technical errors do not lead to systematic error but rather cancel each other out. However, a large number of similar errors can severely distort the results.

Logical control is significantly more complex and requires a higher level of qualification and pronounced conscientiousness. Logical errors are essentially recorded data that are untenable, untrue, or unusable. They are detected through logical, theoretical, and experiential judgment and by using "benchmarks".

Benchmarks are accurate, previously verified, and reliable data that have lasting and relatively broad value. For example, in a study, a response may appear from a man-a father-that he gave birth to three children. If the biological role of sex in procreation and childbirth is a benchmark, which it can be, the answer is untrue and incorrect; or rather, until a few years ago, it was absolutely incorrect. Today, the possibility exists that a former mother changed her gender after giving birth, so that once-mentioned, reliable benchmark now becomes only conditional, partial-it applies only to those who have not changed their gender. As can be seen, we distinguish between two types of benchmarks: *total*, which relate to all data of the same kind and about the same subject, and *partial*, which relate only to a narrower range of data and within a limited time. A partial benchmark, for example, is the age of majority for participation in elections because it only shows the essential limitations on the ability to vote, but not the ability to participate in other election activities.

The essential properties of benchmarks are (according to the literature used): a) a benchmark is a piece of data that expresses the accurate and verified factual state of a reality; b) a benchmark is characterized by an abundance of information about reality; c) a benchmark is directly related to the data being checked, as seen in the two examples provided above.

The purpose of data control is to ensure the initial validity and reliability of the research results, and also to avoid unnecessary additional research activities, such as repeating all or part of the research, the consequences of using incorrect data, more complex and expensive data processing, etc.

It is a misconception that all errors discovered through post-control can be eliminated. Therefore, we repeat the standpoint presented at the beginning: as the saying goes, "it is better to prevent than to cure," to which preliminary control contributes significantly.

3. Arranging, Grouping, and Classifying Data

3.1. Arranging Data

The arrangement of data begins already with its control, with the identification of correct and flawed, well-completed and incorrectly completed forms, and with the detection of logically valid and incorrect data. It is observed that the actions of determining the number (quantity) and properties of data, their classification and labeling, and their mental and physical sorting and grouping are carried out simultaneously.

Data identification, therefore, involves: first, detecting correct and incorrect data and marking them with special, predetermined signs (codes).

There are established criteria for this. This is followed by the physical separation of incorrectly used instruments, their grouping, and their documentation by creating a list of errors, then correcting the errors and regrouping them; second, establishing the types of available data (quantitative-qualitative, concerning intensive and extensive qualities, and according to their relationship with the factors of the research subject).

The criteria and procedures for arrangement are given in advance in the data processing plans and the instructions for their arrangement.

It is evident that the mental arrangement of data precedes the physical arrangement in all cases where the arrangement plan has predefined the criteria and the groups into which we will classify them. If physical sorting is performed without pre-planned criteria, but only based on observed differences during the review of the data, it can be considered that the intellectual and physical procedures are happening simultaneously. We must note that in our expression, we do not equate "physical" data arrangement with the physical-manual arrangement of material facts by their material-physical characteristics. Instead, we include in physical data arrangement any simple list of data without classification and coding, the formation of any "raw list of raw data" whose order is random, based only on the chance that we encountered one piece of data in the recording process before the next. It should be noted that this is not typical for scientific research due to the obligation to create data processing plans when developing the research project and to correct them after preliminary research.

3.2. Classification of Data

The arrangement and processing of data presuppose the classification of data. As we have already discussed the principles and classification as one of the basic methods of cognition and scientific knowledge in the section on basic special methods, here we will only note the following:

1) All collected data must be covered by some functional classification or dichotomy, of an exclusive or a working, functional type;

2) Most classification criteria are already built-in or formed in the draft of the scientific concept. Only in the case of exploratory preliminary research ("pilot studies") may the need for some additional classification criteria arise. In research that has projected at least exploratory, flexible classification criteria, sudden needs for classification do not appear; rather, they are needs initiated by broader and deeper knowledge and data processing.

As a rule, two basic types of classification appear in data processing: a) by the principle of breaking down the highest or a higher concept, and b) by the principle of summarization, which implies the processes of connecting and unifying multiple related provisions into a system. Both types of classification can have the essential characteristics of a "division" type classification or a "participation" type. In the application of the "division" type, all members of the classification must have one essential common provision (property). "Participation" does not impose such a requirement and is therefore much easier to form.

The basis of the classification criterion is the so-called *"crucial property"* of a phenomenon. By this, we mean the essential property of a phenomenon that distinguishes it from all others, while simultaneously connecting all its manifestations and allowing them to be understood as that particular phenomenon. A simpler, widely known example is participation in sessions - meetings of certain assemblies. (Personal) absence from a specific assembly - session may be, but is not necessarily, a property of non-participation in the work of the sessions - especially of a parliament. Moreover, personal non-attendance can be a form of pressure, obstruction, a form of expression, a method of action to prevent a certain decision from being made. In the social sciences, the crucial property is not given forever, but must always be identified anew, clearly defined, and expressed. This is all the more difficult as the crucial property can be complex, synthetic, and conditional. By its origin (basis), it can be: a) *natural - artificial*; thus, *sex* is a natural and simple crucial property, while the *age of majority* is artificial, derived, and complex. It can be original and derived; sex is original; b) logical; c) normative; d) chronological; e) territorial; f) typological (such as village - city); g) conventional and natural, and h) arbitrary, etc. In social research, one and the same crucial property will express multiple provisions or multiple properties, such as sex, age of majority, citizen, etc. The most important and most frequently used, besides natural ones, are conventional, normative, territorial, and typological, while arbitrary crucial properties are the least desirable.

Every classification of data is essentially a classification of certain characteristics, and each of them must meet certain requirements, the most important of which are: a) to be complete - encompassing all groups of characteristics; b) to be logical and clear; c) to express equal conceptual distances (as classification is also a form of measurement); d) to be economical. It must successfully express both series of qualities and systems of quantities. It should not be forgotten that numerical labeling in classification is not necessarily a quantitative determination of the classified phenomenon. An ordinal number used to denote the sequence of members may not (though it can) express any chronology of the members, but may simply appear as a numerical code.

This points to the importance of coding. By definition, *coding* is the procedure of assigning certain signs (codes) that symbolize specific data - data characteristics. The goal of coding is to achieve greater economy and to facilitate working with data during processing procedures. For coding to be carried out systematically and consistently, a codebook of concepts and codes is prepared which, to be effective, also takes into account:

a) the method - the technique and sequence of procedures in data processing;

b) the properties - the characteristics of the data according to which the data will be classified or sorted into groups;

c) the counting and presentation of data, including the functions of counting and relating the counted data to other data.

Decisions regarding the above are also based on objectively given conditions, such as: material-financial, personnel, spatial, available time - deadlines, necessary levels of accuracy, and the expectations of clients, future users, and the scientific community.

The codebook of concepts and *codes* must be understood as a very important instructional and mandatory document about the procedure for classification (on which it is based) and the labeling of data with signs (codes). The properties of a codebook are: associativity, logicality, communicability, conventionality, and discriminatory power.

It is customary that, in meeting the previous requirement, codes are:

A) *Numeric***.** They are most often composed of Arabic numerals (or numbers) that make up the decimal system (0-9). In very complex systems, Arabic numerals can be combined with Roman ones, where Roman numerals (or numbers) are most often used to denote certain groups or wholes, i.e., general categories, classes, and genera;

B) *Alphabetic***.** They are composed of letter signs of a certain script; in our areas, these are the signs - letters of the Latin and Cyrillic alphabets, but also Greek letters. Both lowercase and uppercase letters are used, as well as combinations of lowercase and uppercase letters. Uppercase letters, as a rule, denote more general categories, groups, classes;

C) *Graphic***.** These consist of a system of graphic signs with a strictly defined meaning. It is common for them to be used during text proofreading;

D) *Combined***.** These are, as a rule, systematic combinations of numeric and alphabetic codes.

E) By *complexity*, codes can be: a) *simple*, where one sign (code) marks one content. E.g.: 1. - sex; b) *linked codes* - those that are repeated or linked to other codes. E.g., 1.2 - female (the code shows that it refers to sex, and specifies that it is the female sex); c) *combined codes,* which express a connection between independent properties or multiple independent properties. E.g., 1.2 - 9.1 - which indicates that the woman is a member of the cantonal assembly. In practice, we also encounter the phenomenon where the same code expresses two or more characteristics simultaneously. A typical example is the designation - code for a wife or for a mother. If in the classification we have the entry: unmarried mother with the code 3.2, this code indicates gender, marital status, and family status.

Codes and codebooks can be condensed and expanded. The most suitable for this are numeric codes or combinations of numeric and alphabetic codes with the auxiliary use of symbols: period (.), comma (,), hyphen (a-b), dash (a - b), parentheses - round, square, and curly, etc. For clarity, periods, hyphens, and parentheses are most commonly used. A functional code should not contain more characters than the verbal expression it represents.

4. Presentation of Data

The presentation of data is necessarily preceded by a certain degree of data processing. We will distinguish between the preparatory processing of data-encompassing control, arrangement, classification, and grouping-and the data processing that forms the basis for drawing conclusions, which relates to hypothesis testing and statistical operations and procedures.

Data is presented throughout the entire processing period. Its continuous presentation (individually, in groups (partially), and cumulatively) according to the needs of the research is a necessary condition for working with data.

The basic *forms of presentation*, in both the preparatory and the main working stage, are:

a) *verbal*, *written* presentation of data;

b) *numeric*, using absolute and relative numbers;[3)]

c) *graphic*, by means of various drawings, graphs, histograms, diagrams, etc.;

d) *through various symbols*;

e) *combined*.

The development of techniques and technology has introduced innovations to this standard list of data presentation forms by enabling data to be communicated through photography, as well as auditory and audiovisual means. We must admit that at the current level of development in the social sciences, this type of data presentation is least used in reports on results, but we can often encounter it in data processing.

At this stage of work, data is most often presented in the form of certain overviews (lists) according to general characteristics, in the form of simple static and dynamic series (qualitative and quantitative - spatial; qualitative and quantitative - chronological), and simple tables with one, or possibly two, entries. In this process, absolute numbers and percentages are most commonly used. Graphical presentations in the preparatory stage are very rare. They are most common in the presentation of results and research conclusions, except when the method of factor analysis is used in data processing.

The mention of tables requires us to now address the topic of *tabulation* and *cross-tabulation*.

Presenting data in tables implies that in the previous phases, we have conducted the necessary review of the data and established their basic properties, that we have classified and arranged them, and that we have determined the need and purpose for presenting the data in a specific way.

Tabular presentation of data, as one of the essential elements for a successful research process, can fulfill the following key purposes:

a) to provide a clear overview of the data, thereby ensuring a valid basis for decisions on further procedures in data processing;

b) to build a systematic basis for the analysis and assessment of data;

c) to build a systematized basis for the analysis (study) of a phenomenon and the testing of hypotheses;

d) to prove conclusions;

e) to illustrate statements in a report to enhance their persuasiveness.

We have not included so-called "working tables" in this classification, which have an auxiliary, instrumental role in the manual processing of data.

The other mentioned purposes are not met by simple tables, but by complex tables with two (most often) or more entries, which implies certain cross-tabulations. In the literature (Fitzgerald, Jack D. and Fox, Steven M.: Corporate Crime, Southern Illinois University Press, 1995. "Research Methodology in Criminal Justice Sciences," Faculty of Criminal Justice Sciences, Sarajevo, 2001 - prepared by Prof. Dr. Ibrahim Bakić and Elmedin Muratbegović, pp. 129-137), tabulation is treated as part of descriptive statistics and is linked to the variables of the research (subject), with an emphasis on "cross-tabulation." In actual research, during the first stage, tables do not display the variables covered by the research subject. A table, whether complex or cross-tabulated, that shows an overview of technical and logical errors by sample region or by the day of data collection, does not concern the variables of the research subject, but rather the state of the sample and the data. Therefore, we distinguish the preparatory stage from other research stages, although the basic rules of tabulation and data cross-tabulation generally apply.

Tables with two or more entries presuppose at least two preceding things: 1) that there is a certain real and logical connection between certain phenomena or their characteristics. For example, that there is a certain connection between education and behavior, between behavior and goals, between actions and effects, etc.; 2) that this connection can be expressed statistically and numerically in certain ways.

Once it has been established that these conditions are met, we can proceed to conceptualize and then construct a complex table. We will only consider a two-way table in empirical research. As a rule, it always answers the question: A) how many people with certain sociodemographic characteristics who, according to existing knowledge or a basic assumption, B) feel, express attitudes, agree and disagree, behave, act, use methods and means, achieve results, expect, believe, etc., in various areas of social life. Cross-tabulation primarily shows the connection between A and B-which can be very high or even non-existent.

The procedure for constructing a complex cross-tabulated table is as follows:

1) Determine which relationships you want to understand more precisely-the relationships between which subject characteristics and which behaviors (understood in the broadest sense). From this determination, the title of the table is formulated.

2) Then, determine the table's sequence number within the system of similar tables. The true significance and value of a table are only expressed within a system and in relation to similar tables. In the top-left corner, write the table's serial number, draw a line under it, and below that, write the numbers of the questions being cross-tabulated. Then, by reviewing the data, we determine the number of recorded data points. The symbol Σ (sigma), which denotes the numerical (statistical) base for calculating percentages, and the number corresponding to it, are written in the top-right corner (e.g., Σ = 1500 = 100%). We then proceed to construct the "header" and the "stub."[4)] Let's assume we are creating a two-way table showing how many male and female journalists in the political section of newspaper "X" covered economic, foreign policy, domestic, and cultural issues.

table no. = 1	Table Title	Σ = 30 = 100%
Q: 2/7	Header	
Stub		

TOPICS	ECONOMIC	FOREIGN POLICY	DOMESTIC POLICY	CULTURAL	TOTAL
SEX	no. %	no. %	no. %	no. %	no. %
WOMEN					
MEN					
TOTAL					

This table is a suitable basis both for drawing direct, preliminary conclusions and for calculating various correlations and other relationships, i.e., for the application of various statistical procedures.

Creating a system of the necessary basic tables is, in fact, preparing the foundation for the analysis and assessment of the data.

5. Assessment of Data

The assessment of data is a necessary preliminary step to its actual, detailed processing for the purpose of testing hypotheses and drawing conclusions about the research subject.

Data analysis logically precedes its assessment. It should reveal what the available data truly pertains to, what its relationship is to the subject, objectives, and hypotheses, what its shortcomings and advantages are, and what the possibilities are for its combination and statistical processing.

The process of analysis is a cognitive one that involves:

a) breaking down the data into its content, forms, and relations to the research subject and the subject of its content;

b) comparing similar data and checking their logical coherence;

c) establishing certain cognitive facts through specific statements or orders that relate to specific factors, relations, properties, and activities manifested in a reality defined by time and space.[5)]

Analysis is conducted according to a predetermined plan derived from the research project and oriented by the research tasks. It is essential that the analysis determines the extent to which the data are valid, reliable, and sufficient to answer the key research questions and to test the hypotheses. The results of the analysis must form a reliable basis for a convincing answer as to whether a "systematic error" or an "armchair error" exists, what its nature and magnitude are, and how to approach its elimination. A "systematic error" cannot be equated with an "armchair" one. The former is an error that arises from the accumulation of logical (and technical) errors that are repeated during the implementation of the research and lead to a distortion of the research results. An "armchair" error originates in the conceptualization and/or the development of the research project and is introduced into the research implementation through instructions and instruments.

The assessment of data is an integral part of the analysis of data validity-its starting, functional, and concluding part-because a certain understanding of the data is acquired through all phases of the work, and each segment of the analysis also concludes with a partial assessment. As a separate whole-a phase-the assessment of data is the final phase of the analysis of data validity, and it should not be confused with the analysis of data for the purpose of gaining knowledge about the subject being researched.

The task of data assessment is to determine whether the available data are sufficient, adequate, reliable, valid, and usable for gaining knowledge about the subject and testing the hypotheses. For qualitative data, it is assessed whether the content relates to the research subject and whether it properly expresses the properties and direction of the phenomenon. For quantitative data, it is assessed whether it validly expresses the measure (prevalence, intensity) of the phenomenon's dimensions.

Several procedures are practiced in data assessment. The *simplest*, most common, least standardized, and least reliable *procedure* is a simple *logical assessment of the data*. However, it is not arbitrary but is based on the rules of logical thinking.

The *second procedure* is *the comparison of the theoretical concept with the content of the data that were collected according to that concept* (embedded in the research project). Given that there are multiple conflicting theoretical-methodological schools and their variants, this procedure does not seem absolutely reliable.

The *third procedure* is *the comparison of the content of the data from the subject research with the content of data from previous studies on the same or a similar subject.* We would add to this the requirements that the previous research belongs to the same scientific discipline, that very little time has passed, that the research was within the same theoretical-methodological school, that the same methods were applied, and that no radical social changes (e.g., a change in the social system) occurred between the two studies. And finally, that the meaning of the terms and the concept of "data content" be strictly defined in the specific case. This procedure is also not protected from errors.

The *fourth procedure* is to obtain an *assessment of the data's validity from a group of experts on the research subject*. The assessment is more reliable if the composition of the expert team is more diverse in terms of affiliation with relevant disciplines. It seems to us that the assessment of an expert team is inadequate if it does not include a methodologist. If all team members are from the same profession-from the same scientific discipline-an "average opinion" is formed relatively easily. However, there are also many obstacles to a competent and unified assessment due to the various traits, theoretical and ideological orientations, etc., of the experts. Despite everything, this method of data assessment is considered more rigorous than the previous ones.

The *fifth procedure* is the use of *correlation coefficients* for the relationships between the content of data on the same questions obtained through various, parallelly applied methods. It is obvious that this method cannot be applied to all research due to their different complexity and nature. The requirement that data should be collected through mutually independent indicators seems justified, but it is very difficult to fulfill. There are research subjects for which there is only one possible method and only one type of indicator. For example, a person can describe their personal feelings orally or in writing, but the oral and written statements are essentially the same indicator. Or, in document analysis, the indicator is a written statement of a certain content, which means there are no other dependent or independent indicators. The formation of so-called "complex indicators" as a whole (e.g., forming an index) does not solve the problems we have pointed out. Namely, how can we form valid indexes from qualitative data?

All the mentioned data assessment procedures are helpful, but they cannot guarantee the validity of the data. Without knowledge of the validity of the variables and indicators and the procedure for applying the indicators and instruments, the true value of the data cannot be determined with certainty.

Analysis and assessment reveal errors that cancel each other out-which is the case with technical errors that do not repeat but occur sporadically. However, there are also errors that are magnified-such as those that originate from bias (including insufficient education, lack of conscientiousness, a tendency towards arbitrariness, etc.) on the part of the researcher.

Eliminating errors by replacing them with original, known average data does not fundamentally solve the problem but further complicates it.

The emergence of problems is prevented by:

1) responsible, competent conceptualization and the creation of a precise research project;
2) rigorous and critical application of the rules of the methods;
3) proper training and vetting of collaborators;

4) systematic and strict control of research activities in all segments of the process.

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1. Fitzgerald, D. Jack - Fox, M. Steven: *Research Methodology in Criminal Justice Sciences*, p. 225.
   (1) Milosavljević, Slavomir - Radosavljević, Ivan: *Fundamentals of the Methodology of Political Sciences*.

2. Bosnić, Slobodan: "Arranging and Processing of Data" (in the Collection *Methodology of Research of Social Phenomena*, Belgrade, 1962, p. 175) lists the phases: data arrangement, within which logical control, classification of characteristics, processing, and presentation of empirical data in the form of standard group statements (series, tables, graphs, etc.) are performed; data analysis, which includes the development of the analytical concept, assessment of data, identification and elimination of errors, selection of an adequate analytical procedure, and verification of hypotheses.

Milošević, Novak, in the cited work, largely accepts Bosnić's classification, except that he attaches special importance to hypothesis testing and introduces innovations by specifically discussing the testing of various types of hypotheses.

Mihailović, Dobrivoje: *Methodology of Scientific Research*, Belgrade, 1999, Center for Applied Psychology, pp. 68-79, mentions data processing, and within it, the preparation and sorting of data, then data analysis and conclusion-drawing, within which he classifies analysis and hypothesis testing. He addresses the report on research results and the use of research results in separate chapters. Although Bosnić titles the chapter in the cited work as "Logical Control," he does not limit himself only to it.

Mitrović, Ljubiša: *Fundamentals of Sociology*, Belgrade, 1988, Stručna knjiga, p. 65, in the data arrangement phase, does not mention data control, but claims that: "This phase should enable a scientific description of the phenomenon being researched. This is ensured through quantification and classification… statistical arrangement of data, their grouping, and tabular and graphical presentation…" As the second and final phase, he lists "scientific explanation and verification…"

3. Goode and Hatt: cited work, pp. 324-334.
   (1) Škara-Vidojević, Ljubica: "Fundamentals of the Statistical Method" in the Collection *Methodology of Research of Social Phenomena*, pp. 264-282.

4. Stojak, Rudi: *The Method of Content Analysis*, Institute for the Study of National Relations, Tuzla, Grafičar, 1990, pp. 181-199.

On tables and tabulation, see: Blagoev, Borislav: cited work, pp. 47-55. Lekić, Đorđe: cited work, pp. 323-324. Mužić, Vladimir: cited work, pp. 407-411. Goode and Hatt: cited work, pp. 331-334. Goode and Scates: cited work, pp. 504-506 and 657-677.

5. On data, see: Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, p. 200.
   (1) Zaječaranović, Gligorije: cited work, pp. 182-183.

(2) Milić, Vojin: cited work, pp. 378-380.

(3) Goode and Scates: cited work, pp. 222-223, 467-468 and 408-410.

* The text in this part of the book relies, first, on the preceding discussions, on the book by Radosavljević, I.; Termiz, Dž.; Danilović, N.; Gordić, M., *Statistics in the Research of Social Phenomena* (2016), and especially on the book by Termiz, Dž., *Statistical Processing of Data in Empirical Social Research* (2020), which, as a unique and special work, is more complete in content and significantly more comprehensive, systematically, theoretically-instructively, and sufficiently illustratively with appropriate examples, addresses the respective stage of scientific research that requires more detailed and subtle statistical data processing, especially in empirical scientific research; and second, on experience from the practice of contemporary scientific research.

PART THREE:
HYPOTHESIS TESTING
AND DRAWING CONCLUSIONS FROM DATA

XII - HYPOTHESIS TESTING AND DRAWING CONCLUSIONS FROM DATA

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1. Statistical Processing and Analysis of Data

In the section on the measurement of social phenomena, we indicated that we measure qualities with scales and that we measure exact quantities with other methods of measurement. We also mentioned four types of scales, and each of these types of scales allows for the application of certain statistical procedures. Here is an overview of the scales used in statistical data processing and the statistical procedures associated with them: [1]

I nominal scale:	**1) quantitative characteristics**	**2) qualitative characteristics**
	(1) proportions (2) percentages (3) dominant value (mode) (4) test of significant differences between proportions (5) Chi-square test (significance of relative frequencies)	(1) binomial test (2) Chi-square test (3) Cochran's Q test (4) Coefficient of contingency (C)
II ordinal scale:	(1) Central value (median) (2) Ranks	(1) Kolmogorov-Smirnov test (2) Wilcoxon signed-rank test (3) Median test (4) U-test (Mann-Whitney), Wald-Wolfowitz test Spearman's coefficient Rank correlation (rho) Kendall's coefficient of concordance (W) Analysis of variance (Friedman's variant)
III. interval scale	Arithmetic mean Standard deviation Coefficient of variability	
IV. ratio scale:	Test of the significance of differences between standard deviations Z-value test (Z-test) Pearson's correlation coefficient (r) Analysis of covariance Partial correlation Factor analysis Multivariate techniques	

Geometric mean
Harmonic mean

It is not possible to determine the statistical procedures that should be applied for all research in the social sciences. Suffice it to say that within the economic sciences, business mathematics and economic statistics are studied separately; that within the methodology of law (Lukić, R. "Methodology of Law," Belgrade, 1983, and Blagojević, Slobodan: "Methodology of Law," Belgrade, 1997), and in the book by D. Mihajlović intended for postgraduate students at the Faculty of Organizational Sciences, scaling techniques are mentioned on only one page and in connection with scientific inquiry. M. Vujević follows a similar approach, and Dž. Termiz, in the book "Fundamentals of the Methodology of the Science of Social Work," discusses measurements within the context of research methods and techniques (e.g., within the sociometric method). However, a different approach is taken in the books by Dž. Termiz - S. Milosavljević: "Introduction to the Methodology of Political Science" and "Practicum in the Methodology of Political Science"; and S. Milosavljević - I. Radosavljević: "Fundamentals of the Methodology of Political Sciences." This proves that it is not advisable to provide special frameworks for measurement and statistical procedures for all social sciences within a general methodology of social sciences. Instead, it is sufficient to point out the basic statistical procedures and leave the rest to either appropriate statistics textbooks or the special methodologies of specific sciences and scientific disciplines. Methodologies from the field of pedagogy (Mužić, Vladimir and Lekić, Đorđe) convince us of this. The already mentioned book by Jack D. Fitzgerald and Steven M. Fox, "Research Methodology in Criminal Justice Sciences," is particularly instructive, as it presents all the desirable statistical procedures for research in the criminal justice sciences within the discussion of descriptive statistics (p. 99) and inferential statistics (pp. 165-199). The following topics are listed and covered: 1) measurement and scales; 2) describing data (raw numbers, percentages, rates, frequency distributions); 3) measures of central tendency (median, mode); 4) measures of dispersion (range, average deviation, standard deviation); 5) distributions (unimodal and multimodal, normal distributions and standard scores); 6) comparing frequency distributions; 7) basics of cross-tabulation and elaboration analysis; 8) scattergrams; 9) regression analysis; 10) correlation analysis; 11) correlation and cross-tabulation; 12) determining probability empirically and mathematically; 13) sampling distributions; 14) nonparametric statistics; 15) point estimation and interval estimation; 16) hypothesis testing; 17) Student's t-test; 18) one-way analysis of variance; 19) determining the relationship between variables in tables (Chi-square, correlation coefficient). By providing this overview of the presented statistical procedures, we recommend that students consult this book, as the procedures are demonstrated with examples.

In almost all empirical studies where the statistical method is applied, it is not necessary to perform all statistical procedures in data processing. However, for most research, the following are unavoidable: 1) *counting*, which determines the number of units included in the research, the number of correctly - incorrectly processed units, etc.; 2) calculating *proportions* and *percentages*. Proportions are used to calculate a quantitative relationship to the whole using a range from 0 (zero) to 1 (one). A percentage is one-hundredth of a certain numerical (quantitative) mass. Proportions and percentages are important because they allow for the comparison of multiple distributions (series) with the same categories but different sizes; 3) calculating *mean values*, specifically the *arithmetic mean*, is used in almost all empirical research.[2] It is the quotient of the sum of all characteristic values in a set of units and the number of those units (e.g., the sum of all elementary school students divided by the number of schools). The arithmetic mean generalizes and simplifies the characteristics of the set, but expresses them in a condensed and simpler way. Besides the arithmetic mean, there are also the geometric mean[3] and the harmonic mean[4], which are used much less frequently.

Coefficients of relationship are used to describe a statistical set by expressing the mutual relationship between categories, as well as by determining the proportion of one category to another on which it depends (e.g., the number of excellent articles in the political section of newspaper "X" relative to the total number of articles in that section).

Numerical frequency distributions are considered a measure for describing a statistical set by revealing the measure of central tendency or the average, mean value of the distribution. Representative values - measures are expressed through calculated mean values (arithmetic, geometric, and harmonic) and through positional mean values (*median and mode*). It is also desirable to calculate variations of deviation from the mean value and from each other.

The *median* is a measure of central tendency that, by its value, divides a distribution (series) into two equal parts by size. It is possible if the series is arranged by size, it is not affected by changes in the values of the characteristics, and it is insensitive to extreme values of the characteristics. It is the value of the characteristic for the typical unit.

The *mode* is the most frequently repeated value of a characteristic in the distribution of a set and is used in all studies of the typical value of a characteristic.

Measures of average are important for detecting differences when comparing parts of a distribution's structure or multiple distributions. Namely, different distributions (series) can have the same mean values, which can lead to distorted conclusions. Therefore, measures of variation are added: a) absolute (*range of variation*, *interquartile range*, *average deviation*, and *standard deviation*) and b) relative (*coefficient of variation and coefficient of quartile variation*).

The *range of variation* is the range between the highest and lowest value of a characteristic, expressed in individual or group intervals. This is necessarily a rough measure of variation.

The *interquartile range* is a more refined measure and represents the difference between the third and first quartile.

Average absolute deviation is the deviation of individual values of a characteristic in a distribution from the arithmetic mean, but it is not of great significance.

Variance is the square of the mean absolute deviation. It is necessary for comparisons across different series and is suitable for further mathematical processing and statistical analysis.

Standard deviation[5] is considered one of the most important absolute measures of variation. It is the square root of the variance of the individual values of a characteristic in a distribution from their arithmetic mean.

The *coefficient of variation*[6] is the ratio between the standard deviation and the arithmetic mean, expressed as a percentage.

In social research, the calculation of *correlations* is unavoidable. It expresses the degree of strength of the relationship through which the mutual dependence of phenomena, their properties, and their determinants are manifested. Correlation does not express cause-and-effect relationships, so a dependent variable cannot be explained by an independent one.

Regression[7], as a statistical-mathematical procedure, expresses stochastic dependencies and aims to describe - or explain - the dependent variable through the independent one by establishing a mathematical relation and determining their form and direction.

In social research, the application of correlation (the correlation coefficient) and/or regression requires establishing a combination of the types and number of characteristics, and can therefore be organized as follows:

Combination of Characteristics	Methods	Measures and Indicators
1. Two or more phenomena recorded with a qualitative (attributive) expression	Contingency	Chi-square, Yule's coefficient of association Phi coefficient Rank correlation coefficient
2. Two phenomena with a numerical (quantitative) expression. Series with grouped or ungrouped characteristics resulting from the act of observation (complete or sample-based).	Total correlation Linear regression	Scatter diagram Regression equation Standard error of regression Coefficient of determination Coefficient of correlation Eta coefficient
3. Three or more phenomena with a qualitative characteristic	Multiple correlation Partial correlation	Regression planes - linear and curvilinear multiple correlation Coefficient of multiple correlation Coefficient of partial correlation

In practice, there are few scientists-researchers who study social issues and know enough mathematics and statistics to be able to perform all the calculations independently. They are primarily expected to set the requirements and, in collaboration with a statistician, formulate the tasks. Besides, the procedures and calculation formulas are built into computer programs because they are standardized.

Given that social phenomena are dynamic, we must be reminded of the need to calculate time series by applying dynamic indices and models of time variations.

Finally, let us also say that the degree and scope of statistical processing largely depend on the kind and type of research. For example, some theoretical studies do not require statistical processing at all, while others, based on the results of empirical research, require very subtle statistical processing. Not all empirical studies require equally detailed statistical processing. However, all social research requires counting, forming series, calculating percentages and mean values, standard errors, and calculating correlation (the correlation coefficient).

2. Hypothesis Testing

In methodological literature, there are two concepts of hypothesis testing: the first, widely adopted and applied, which requires that hypotheses be proven or confirmed; [8] and the second, that hypotheses be refuted (falsified). Given that the concept of refuting hypotheses, authored by Popper, is rarely applied in research practice, we will address it first.

The essence of Karl Popper's conception can be concisely expressed in the following two statements:

1) A hypothesis should be tested by refuting it (its statement and the statements about its variables) according to the rules of the method of proof and refutation;

2) If a hypothesis is not successfully refuted, it is considered valid until it is refuted.

This standpoint could not be accepted for two essential reasons. The first is that, according to the norms of logic, negating and refuting one thing does not determine and prove another. The second reason is that the concept of refutation is considerably poorer compared to the traditional procedure of hypothesis testing, which encompasses both proving and refuting-the confrontation of arguments for and against the hypothesis's statement.

The complexity of the problem of proving hypotheses is clearly visible from the existence of a multitude of approaches and understandings. Ž. Ristić, in his book "On Research, Method, and Knowledge" on pp. 215-245, lists the following approaches: 1) traditional; 2) logical-positivist and logical-empiricist (Hempel's, Carnap's); 3) empiricist from the standpoint of falsificationism; 4) Lakatos's standpoint; 5) the hypothetico-deductive approach; 6) the Bayesian approach; 7) Salmon's understanding; 8) Glymour's conception; 9) Ackermann's understanding; 10) Kuhn's understanding; 11) Feyerabend's understanding; 12) the understanding of the novelty of empirical evidence; 13) De Groot's understanding. Discussing each of these understandings is not possible as it would require too much space, and the problem would not be fully resolved.

Research practice has already affirmed a certain procedure which we will present here. [9]

Hypotheses are understood as *well-founded assumptions* arrived at through prior empirical knowledge (acquired during the identification of the research problem) and prior theoretical research during the conceptualization and development of the research project up to the section on hypotheses. Therefore, hypotheses are not random or arbitrary but are an expression of existing scientific knowledge and its shortcomings, gaps, and questions to which a sufficiently valid, contemporary, and satisfactory answer has not been given.

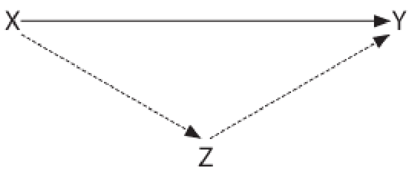
Every hypothesis has a statement, which is its essential determinant. The statement of the hypothesis, which is the relationship between the independent and dependent variables, is understood as a thesis that should be proven or refuted with arguments through the procedure of the basic method of proof and refutation.

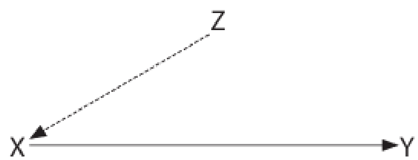
The arguments in hypothesis testing are the indicators, or rather, the data about the indicators. If the data are valid and reliable, and if there is a sufficient amount of it, they will either confirm or negate the corresponding hypothesis. For quantitative hypotheses, quantitative indicators and data are necessary, while for qualitative hypotheses, both types of indicators and data can be applicable.

Assuming our indicators and data are valid, reliable, and sufficient, we treat the data as corresponding evidence for the statement of the hypothesis. The procedure of hypothesis testing is complicated by the properties of the hypotheses and indicators. A hypothesis can be simple, consisting of only two variables, but it can also be complex, containing one, two, or three auxiliary, intervening variables of various kinds. Such a hypothesis then has a central statement and statements that express the relationship between the primary and auxiliary variables. [10]

This can be schematically represented in the following way:

A) or B)





Meaning of symbols:

X – independent variable;

Y – dependent variable;

Z – intervening variables;

In the first case, A), we have an independent variable that acts on the dependent variable and on the intervening (auxiliary) variable, and the intervening variable that acts on the dependent variable. Here we have: a) a statement about the independent and intervening variables and the relationship between them; b) a statement about the relationship of the intervening and *independent* variable; c) the central statement of the hypothesis. In the second case, B), we have an intervening variable that precedes the independent variable and the relationship between the independent and dependent variables. Here we have a statement about the relationship between the intervening and *dependent* variable and the central statement of the hypothesis-about the relationship between the independent and dependent variables. Many other combinations are also possible, considering the existing types of variables and their potential roles in hypotheses.

We begin the process of proving, or more accurately, testing hypotheses by testing the individual hypotheses. In doing so, one should start from the standpoint that not all individual hypotheses necessarily have the same significance for confirming the special hypothesis. Therefore, testing the individual hypotheses is preceded by determining their significance for the verification (confirmation) of the special hypothesis they specify.

The second act is the selection of the first hypothesis and establishing the order in which we will test the hypotheses. It is rational to give primacy to the most significant hypotheses, as well as to test all individual hypotheses within a given special hypothesis. It is logical to conclude with hypotheses whose content deals with effects, if the system of hypotheses allows for it.

The third act is the analysis of the hypothesis selected for testing. This practically means that this analysis should establish the number and properties of the variables and statements of the hypothesis and their correspondence with specific indicators or data.

The fourth act involves linking the data and the hypothesis, specifically: a) data related to the independent variable, in order to determine whether the data confirm its existence, properties, and role in the hypothesis; b) the same is repeated for the dependent variable and for the auxiliary (intervening) variables.

If the data confirm the properties and roles of, first and foremost, the independent and dependent variables, and then the others, we can proceed to test the central statement of the hypothesis and the other statements it contains.

Not all data that may relate to a hypothesis have the same significance for its confirmation or refutation. Given that the statement of the hypothesis expresses a relationship between variables-and this can be the content, direction, tendency, duration, etc., of the relationship, just as it can relate to the past, present, and future in various combinations-we must clearly distinguish:

a) what the statement actually asserts and under what conditions;

b) which data components relate to the subject claims;

c) how much data is consistent, and how much is inconsistent, with the claims of the statement(s);

d) what the significance of the data is-its validity, reliability-that confirms or refutes the statement of the hypothesis.

As a rule, an individual hypothesis can be considered confirmed if a sufficient number of appropriate data points are consistent with the hypothesis's statement and if it confirms the properties and roles of the variables. The insistence on the quality of qualified data and on determining its significance takes into account that in some research, data may have various methodological origins and that different applied techniques may have different roles and relate differently to various hypotheses. For example, for some hypotheses, data may be obtained by only one method and technique, while for others, by applying two or more methods and techniques. A hypothesis is confirmed only if it is confirmed by data obtained through all the techniques used, i.e., if the data are consistent. In the case of inconsistency of data from different sources, this inconsistency must be resolved. The procedure for resolving data inconsistency involves: a) analyzing the properties of the inconsistency; b) discovering the reasons for the inconsistency, its scope, and its significance; c) choosing a procedure for resolving the inconsistency. One of the procedures may be to accept the data obtained by applying the main method and to disregard the others. However, data disagreement opens up many questions-among them, the true value of the research as a whole.

The testing of special hypotheses is carried out according to the rules and procedures used in testing individual hypotheses. The difference is that the role of indicators and data is taken over by the individual hypotheses, and the special hypotheses take on that role in the testing of the general hypothesis.

Finally, we must emphasize that hypothesis testing, except in cases of laboratory experiments, is exclusively a highly intellectual and complex process that requires a high degree of insight into relationships and meaning. Competence, knowledge, inspiration, etc., are necessary and cannot be replaced by the mechanical application of templates, models, or statistical procedures, which are indispensable but are only instruments.

Hypothesis testing is a procedure for building a cognitive, logical, and functional system of inductive-deductive reasoning based on theoretical and empirical facts.

XIII - DRAWING CONCLUSIONS ABOUT THE RESEARCH AND THE RESEARCH RESULTS

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Drawing conclusions based on research results is a thought process of forming a unified system of scientifically acquired knowledge by systematizing and logically connecting judgments into conclusions, and conclusions into specific structures. In principle, we can consider three distinct substantive areas: 1) drawing conclusions about the process and properties of the conducted research, i.e., about methodological issues; 2) drawing conclusions about the research subject; 3) drawing conclusions about the social phenomenon to which the research subject relates. These three segments, especially the second and third, can only be conditionally separated. In all three cases, processes of inductive, transductive, and deductive reasoning take place, alternating with one another.

1. Concluding about the Research

There are two essential questions regarding the subject of concluding about the research. They are separated from each other in time. The first period occurs during the planning of the research. This involves the selection of approaches, methods, and research techniques, their extraction from the scientific methodological fund, and their application to the research subject. It is a system of prognostic judgments and conclusions that certain approaches, methods, and techniques will enable a certain level, reliability, and validity of knowledge under specific conditions. These are also conclusions-assessments of the scope, properties, time, and spatial distribution of the conditions. Assessments of the feasibility of applying certain methods, techniques, instruments, and procedures under specific conditions are of essential importance. The conclusions reached are predominantly collective and applied, and their correctness has been verified. Their primary content was expediency and applicability in the presumed circumstances.

The second period of drawing conclusions occurs after the research is completed and includes three tests: material-organizational, operational, and scientific-methodological. Scientific-methodological conclusions can be conceived and dimensioned in various ways. The requirement of scientific rigor imposes an obligation to present and explain how the research results were obtained. In a way, this conclusion-drawing has the characteristics of presenting and refuting the research results. However, it is not original or creative, as it can also be just a brief description. Far more significant is the system of conclusions-assessments about the opportunities and limits of the applied approaches, methods, and techniques, about the contributions and shortcomings discovered by the research. In this sense, answers are sought for at least these questions: 1) what of the already known in methodology and applied in the research functioned properly; 2) what of it caused difficulties and how were they overcome; 3) what new things emerged, why, and how during the research in the methodical-methodological sphere. Criteria represent a significant problem in making these assessments.

2. Concluding about the Research Subject

The data we have obtained through research relates directly to the research subject-its structure, properties, relationships, and connections, its content and forms, and its relationships with the environment and its place, role, and functions within that environment. This also implies knowledge about its dimensions and quantities, as well as its behavior. Based on the data, we learn about: a) the subject as a whole in a specific environment; b) the subject as a whole composed of parts and factors; c) the parts and factors of the subject and their places, roles, functions, relationships, and properties.

The data do not relate to all aspects of the subject in nearly the same way, but only to those that were treated by the hypotheses, or more precisely, only to those for which indicators (manifestations) were established and about which data were collected. Therefore, we can draw conclusions about the research subject partly directly, based on the data, and partly indirectly, based on associations and implications that arise from the conclusions about the hypotheses or from certain groups of data. Accordingly, we can distinguish between original direct conclusions about the subject and *implied direct conclusions* about the subject. In this statement, "direct" refers to the direct relationship of the content, not the method of its formation.

Conclusions about the subject are, in the first phase, predominantly deductive. The subject is defined with a strong reliance on the existing scientific fund and the formulation of the problem, but a part of it also relies on non-scientific knowledge. We treat these as well as a collection-a certain body of knowledge from which conclusions (and judgments) about the research subject are deduced.

From the moment data collection begins, and especially from the moment the testing of individual hypotheses starts, the conclusions about the research subject become inductive. For each individual hypothesis, two different types of conclusions are drawn. Some relate to whether the hypothesis is confirmed or refuted, in whole or in part, whether it should be replaced, in whole or in part, etc.-that is, conclusions about the status of the hypothesis. Others relate to the research subject itself as it is defined. The question is whether we can justifiably consider this conclusion-drawing to be unmediated. Namely, the data relate to the indicators, the variables, and the statement of the hypothesis, and not directly to the definition of the subject. Posed this way, the question is dysfunctional because all hypotheses deal with-and express a statement about-certain aspects of the subject. The real question is whether the hypotheses have truly encompassed all the content-the aspects of the subject and the relationships between them. It is evident that they have not, but rather that only the essential aspects have been stated. Furthermore, the system of hypotheses does not sufficiently and directly capture the relationships between individual aspects. Hence the need for *implied* conclusions about the research subject of any kind.

In simple terms, we could say that the conclusions about individual hypotheses are direct, based on the data, and that they are also direct in relation to the research subject.

Conclusions about special hypotheses are derived-implied by the conclusions about the individual hypotheses, and the conclusions about the general hypothesis are implied by the conclusions about the special hypotheses. Thus, a four-tiered system of conclusions based on the criterion of abstraction is created.

The fourth tier constitutes the general conclusion (a system of general conclusions) about the research subject as a whole.

Conclusions based on research results are not analytical-they are based on induction and are therefore, in principle, probable with varying degrees of probability. However, this general statement cannot be absolutized. Research based on exact measurement and the application of a ratio scale can be, in its results, completely true in a given time and space. If we have accurately counted how many articles were published in the political section of newspaper "X" in a specified period, we can only speak of truth and accuracy, not just of probable conclusions, whether diagnostic or prognostic.

For us, however, the most important question is whether the conclusions offer-or communicate-established scientific laws or perhaps scientific explanations, and of what kind. Whether they are causal explanations, statistical explanations, or teleological explanations. Of course, scientific laws are not necessary for certain types of explanations (e.g., teleological, statistical), but certain relationships and inherent regularities exist between laws and explanations.

3. Concluding about the Phenomenon

An objection could be raised that concluding about the phenomenon is the same as concluding about the subject, as the subject itself is a certain phenomenon. We cannot agree with this because the subject of any individual research is only a part, an aspect, a property, a moment of the phenomenon. However, based on the direct conclusions about the subject, one can, to some extent, draw conclusions about the phenomenon as a whole. Namely, conclusions about the subject imply much more comprehensive conclusions, especially if they are linked with conclusions from other research, axioms, scientific laws, etc. We will call these conclusions *generalizing* conclusions, keeping in mind that they can express a firm standpoint based on reliable and valid knowledge (let's call them categorical), but they can also express only well-founded and probable assumptions (let's call them hypothetical).

Conclusions about the phenomenon are indirect, mediated by the conclusions about the subject. They too are inductive, but those that rely on axioms, scientific laws, and the like cannot be merely probable and completely non-analytical. Existing, valid logic does not recognize the transitional and integrated forms of reasoning that appear here. They are simultaneously partly deduced from axioms, scientific laws, etc., and partly induced from the conclusions about the research subject.

As a rule, conclusions about the phenomenon and the research subject (especially in heuristic, but also in verificatory research) are very critically and innovatively oriented. Unfortunately, all conclusions based on research results and data are also prone to potential errors. The most common errors are errors of interpretation and evaluation of data, errors of bias, errors of one-sided oversights, and, unfortunately, errors of superficiality. Errors of superficiality have their source in: a) insufficient data processing; b) insufficiently responsible analysis and verification of conclusions; c) non-compliance with methodological and methodical rules; d) insufficient consultation and consideration of theory. If these errors are avoided, it is probable that a productive system of summary, synthesizing conclusions will be formed, which, even when they do not provide a law or an explanation, point towards them.

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1. Mužić, Vladimir: *Methodology of Pedagogical Research*, Institute for Textbook Publishing, Sarajevo, 1968, pp. 381-386.
Lekić, Đorđe: *Methodology of Pedagogical Research and Creativity*, Institute for Textbooks and Teaching Aids, Belgrade, 1980.
Milić, Vojin: *Sociological Method*, Nolit, Belgrade, 1978.

Milić evaluates the nominal scale and, from a simple scale of naming, elevates it to a scale that has the characteristics of a Ratio scale. However, questions about the relationship of counting the bearers of a certain quality and their role in it (the nominal scale) open up the broader question of scaling.

2. Lekić, Đorđe: *Methodology of Pedagogical Research and Creativity*, Institute for Textbooks and Teaching Aids, Belgrade, 1980, pp. 269-274.
"Based on a series of distributions by function, mean values can be calculated that represent the characteristics of almost all scores..."
The following are mean values: arithmetic mean (M) - most common; median (Md) (less common); and mode (Mo) (least common).
- calculating the arithmetic mean from ungrouped data:
formula: M = x / N
symbol key:
M - arithmetic mean
- sum
x – scores
N - number of cases
- calculating the arithmetic mean from data grouped into classes:
formula: M = fxi/N
symbol key:
M - arithmetic mean
- sum
x - scores grouped into classes
xi - midpoint of the class interval
f - frequency
fxi - product of the midpoint and the frequency
N - number of cases
- calculating the arithmetic mean using an arbitrary starting point:
- M = xo + i (fd / N)
- symbol key:

M - arithmetic mean
xo - arbitrary starting point
i - size of the class interval
- sum
f - frequency
d - deviation of the class from the class containing the arbitrary point
fd - product of the frequency and the deviation
fd - sum of the products of the frequencies and deviations
N - number of cases
See: Mužić, V.: *Methodology of Pedagogical Research*, Sarajevo, Institute for Textbook Publishing, 1968.
Guilford, J.P.: *Fundamental Statistics in Psychology and Education*, SA, Belgrade, 1968.
Blagoev, B.: *Statistics for Students of Law Faculties*, Naučna knjiga, Belgrade, 1969.

3. Lekić, Đorđe: *Methodology of Pedagogical Research and Creativity*, pp. 274-276.
Calculating the Median
"The median is the point on the scale above which 50% of cases lie and below which 50% of cases lie."
Formula: Md = L + i * ((N/2 - cf) / f)

- symbol key:
    - Md - median
    - L - the lower limit of the class interval containing the median
    - N/2 - half the sum of the frequencies
    - cf - cumulative frequency below the median class
    - f - frequency of the class containing the median
    - i - size of the class interval

See: Mužić, V.: *Methodology of Pedagogical Research*.
Guilford, J.P.: *Fundamental Statistics in Psychology and Education*.
Blagoev, B.: *Statistics for Students of Law Faculties*.

4. Lekić, Đorđe: *Methodology of Pedagogical Research and Creativity*, Institute for Textbooks and Teaching Aids, Belgrade, 1980, p. 276.
Calculating the MODE
"The mode is the score that appears most frequently on the data scale... the score with the highest frequency in the data distribution."
The mode is calculated using the formula: Mo = M - 3(M - Md)
Symbol key:

- Mo - mode
- M - mean value
- Md – median

See: Mužić, V.: *Methodology of Pedagogical Research*.
Guilford, J.P.: *Fundamental Statistics in Psychology and Education*.
Blagoev, B.: *Statistics for Students of Law Faculties*.

5. Lekić, Đorđe: *Methodology of Pedagogical Research and Creativity*, pp. 116-120.

6. Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, pp. 225-228. Cohen, Morris - Nagel, Ernest: *An Introduction to Logic and Scientific Method*, pp. 178-192, 237-300, 343-352. Blagoev, Boris: *Statistics for Lawyers*, pp. 170-181.

7. Milić, Vojin: *Sociological Method*, pp. 723-741.

8. Šešić, Bogdan: *Fundamentals of the Methodology of Social Sciences*, pp. 224-232.

9. Popper, Karl: *The Logic of Scientific Discovery*, Nolit, Belgrade, 1973, pp. 279-310. He is very critical of the verification of hypotheses and discusses the 'confirmability' and 'falsifiability' of hypotheses.

10. Mihailović, Dobrivoje: *Methodology of Scientific Research*, FON, Belgrade, 1999, pp. 140-142.

XIV - RESEARCH REPORT

XIV - RESEARCH REPORT

In contemporary methodological literature, the issue of preparing a report and its role in research is attracting all kinds of interest. This reflects a proper understanding of the importance of the report, which is, in essence, the most significant part of the research. Due to the synthesized scientific knowledge presented in the report, including indications of the potential for applying the results, the preparation of a report in research is mandatory.

Most authors primarily and predominantly discuss the report on the results of the research, specifically the part that relates to the theme of the research subject. In doing so, they consider the various roles and forms in which a report on the results of any research can be found-from the preparation of student seminar papers to reports on research results for exclusively scientific purposes. In this sense, the latest book by M. Sakan, "The Preparation of Professional and Scientific Papers," which contains numerous technical errors, is illustrative.[1)]

Any serious analysis shows that a scientific research report cannot be reduced only to a report on the cognitive-research results about the subject of the science and scientific research, but that it is a much broader issue.

1. The Concept and Structure of the Research Report

The research report is a complex whole of scientific and professional knowledge about the entire process of acquiring scientific knowledge through research activity within a defined scientific-research process. It contains three distinct segments of content: a) content that addresses specific practical activities of an organizational-technical or technical-economic nature; b) content that addresses the issues of the research subject; c) content that addresses methodological-methodic issues.

In methodological research, the contents designated as b) and c) can be, but do not have to be, combined.

The research report is the broadest entity, and the report on research results is a part of that entity.[2)]

2. The Concept, Structure, and Classification of the Report on Research Results

The report on research results is a complete presentation of newly acquired scientific knowledge about the subject and methods of the research, presented in writing, systematically, critically, and argumentatively, in appropriate forms, with a style and language suitable primarily for further scientific use.[3)]

Research practice recognizes, by the criterion of purpose, two basic types of reports on research results. The first, which functions to advance science and scientific-research work, is fully consistent with the definition provided above.

The second type of report, characteristic of developmental research, presents the possibilities and conditions for applying scientific knowledge and the results of a specific study in practice-it may even directly propose ways and means for the immediate practical application of the acquired knowledge.

While distinguishing between these two types of reports, we do not exclude the possibility of forming an integrated report, but this is not a frequent case.

The report on research results is formally separate but not independent; rather, it is closely linked to previous scientific knowledge. It is a complex and sensitive system of proof and refutation through which productive scientific conclusion-drawing is achieved. It is wrong to understand the report as a simple communication of data, judgments, and conclusions reached through hypothesis testing and the subsequent reasoning about them. The essence of the report lies in communicating truth or falsehood, so the statements in the report are simultaneously: confirmations of the truth or falsehood of the concepts, approaches, and hypothesis statements in the research; postulates and premises for drawing new conclusions (both in this report and later); and a basis for formulating new questions and hypotheses. This indicates that the preparation of the report has the characteristics of a research process, applying all the basic methods of cognition.

An essential content of the subject report is the results that were obtained during the research.

2.1. Common Criteria for the Classification of Reports on Research Results

The first, most commonly used criterion for classification is the degree of completion of the research and the report. According to this criterion, there are three functionally different types of reports:

1. preliminary;
2. phased - interim ("sequential"), and
3. final reports.

1. A *preliminary report* generally relates to the entirety of the research results, but in specific cases, it can also relate to certain parts of the research results. Preliminary reports on the research *process* itself are encountered only exceptionally. A preliminary report is preparatory, coming before the completion of all necessary levels of data processing and in-depth conclusion-drawing. It actually presents only hints of probable results, and its content often consists only of basic classifications, overviews of distributions, tables, and statements about the confirmation or refutation of hypotheses, the most basic argumentation, and tentative, restrained judgments.

Simpler and smaller-scale studies, as well as action research, generally do not require the preparation of preliminary reports on research results.

2. *Phased or interim - partial reports*. This type of report includes all reports whose subject is parts of the research-or research results-according to any criteria. Termiz Dž. and S. Milosavljević, as well as Milosavljević S. and Radosavljević I., list and describe the following types of partial reports: 1) phased - interim; 2) spatially defined; 3) problem - thematically defined; 4) methodological - methodically defined; 5) subject-defined, and 6) data-characteristic-defined reports on research results. It is possible, and probable, that this issue could be approached in another way, but besides the aforementioned authors, in the last thirty years since S. Milosavljević laid the foundations for this classification, no one else has addressed this topic.

2.2. Basic Contents of Partial Reports

1) Phased or interim reports

In research practice, we encounter both *complete* and *partial* interim reports. Complete ones cover an entire, characteristic period. A typical example of this are the reports prepared after each stage of a panel or longitudinal study. Partial reports relate to phases that can be determined by any rational and functional criteria (e.g., trial phase, control phase, preparatory phase, etc.). A typical example of this is sequential analysis when applying the observation method. The purpose of this type of report is to indicate a potential need for intervention.

2) Spatially defined reports

There are two known basic types of this report: territorially defined according to defined territories (social, economic, legal, political, cultural), such as states, geographical, or other units in comparative research. The second type of spatially defined report is just a variation of the first. It is prepared within a complex study in which, within a general project, special projects or sub-projects relating to specific territories emerge. In practice, a unified research subject and the same research method suggest the need for separate reports by territory in order to perceive identities, similarities, and differences.

A specific case are reports in the form of monographs resulting from research that applies a series of case studies or a mosaic of case studies.

Reports of this kind should be final for the subject theory and should enable the synthesis of a general report within the general project.

3) Problem - thematically defined reports

This type/kind treats problems within the framework of interdisciplinary research. In both cases, these partial reports form the basis for the preparation of an integral, final report.

4) Methodological-methodically defined report

As stated in the title, this type of report is prompted by the use of multiple methods or techniques within the same research. The reason for preparing separate reports lies in the relationship between the results and the applied methods. Namely, data obtained by various methods can be consistent, but also inconsistent. Independent reports allow for the comparison of data, conclusions, and methods or techniques. However, not all methods in one study necessarily have the same status. They can be the sole method (in which case these reports are not made), parallel with equal status, or have various statuses (when it is necessary to create a report on the results of each method). Problems concerning the relationship between methods and the reports implied by them are resolved within the research project.

It is useful for all these reports to be understood and used as a basis for creating a synthetic report. In the preparation of a synthetic report, we can identify the following situations:

(1) one report, based on one method, is the primary and main one, while the others are auxiliary;

(2) all reports are of equal standing, and the synthetic report is a product of their integration and intermingling;

(3) one report, or two or more reports integrated into a whole, are primary, while one or two are used for control for the whole or only part of that report.

5) Reports defined by the type of research subject

It is common to divide research subjects and the research itself into empirical and theoretical. In contemporary scientific-research practice, there are almost no exclusively theoretical or exclusively empirical studies. Social phenomena that are the subject of research in the social sciences are both theoretical and empirical, or rather, they are as the research defines them.

Every empirical study begins with theoretical research and also ends with it. Therefore, we will immediately divide the research into activities of theoretical and activities of empirical research work. This practically means that, as phased reports, theoretical and empirical reports must be considered according to the criterion of the content of the subject and the research methods.

There are two realities of theoretical research: the first precedes empirical research and relates to the scientific fund-existing books, journals, research results, etc. This report is instrumental, not sustainable as a whole, but is incorporated into the research project. The second reality takes place during the research and the preparation of the comprehensive report. It has two components: knowledge about the subject in the existing scientific fund and theoretical positions that were reached by studying the empirical evidence. This report is included in the final report on the research results.

The second type consists of reports based on empirical data. Here too, we have two necessary realities. One consists of reports based on the original data of the study in question, which are the essential and fundamental basis for the report on the research results. The second reality is the report about data, i.e., based on data from other studies that are the basis for secondary analysis. Here, one can speak of two or three variants: first, the data are general, without a strictly defined purpose and subject orientation (general statistical data) which are rearranged according to the needs of the research subject, and a report is made based on them; second, reports from other related or usable studies serve as global data and a basis for preparing the report; third, selected data from other studies are used to prepare the report.

All the mentioned partial reports are only unique segments in the preparation of the final report and, when necessary, it is justified to create them as separate reports.

6) Partial reports by data properties

In all the previous reports as well, the properties of the data were of great importance. In this classification, two determinants play a special role: the sources of the data and the relationship of the data to the research subject.

It is justified to distinguish between reports based on original, primary data directly aimed at the research subject, and those based on derived data or data that are not directly focused on the subject of the study in question.

This division is merely a variant of the previous type and relates to research using secondary analysis.

A known classification is based on the criterion of the report's relationship to the research project, which we have already indicated. We can identify the following relationships:

1. preparatory report;
2. in the development phase;
3. in a control function;
4. in the function of presenting research results.

In some cases, reports on "repeated" or supplementary research are also prepared.

2.3. The Concluding - Final Report

In the practice of scientific research, the terms summary, concluding, and final are used for the report submitted to the client and the scientific community (narrower or broader) after the research has been completed. Without entering into a discussion about the most suitable term, we will present the definition of the concluding-final report, its basic structure and systematics, its basic content, the manner of presentation, and the essential aspects of its presentation. We note that everything that will be said refers primarily to the report on research *results*, but also to the report on the research itself, in accordance with its essential provisions.

By the term "*concluding report*", we denote the complete report in which we communicate the research results after all research activities and procedures foreseen by the research project have been carried out. It encompasses, critically and with necessary corrections and synthesis, all the partial reports that we previously prepared and considered. This report has not yet been accepted by the client and the scientific community (or representatives of the scientific community) and therefore cannot be considered final.

The term "*final report*" denotes the concluding report after its acceptance by the client and representatives of the scientific community. In fact, no report on scientific research is ever truly final, as it can be subjected to study and criticism again, even decades after its acceptance. However, for the research team, the client, and certain representatives of the scientific community (reviewers, the project's scientific council, members of the scientific conference where the project and report were discussed, etc.), it is final, because with its acceptance, their further obligations regarding the subject research cease.

1) The Structure and Systematics of the Concluding - Final Report on Research Results

The structure of the report is determined by the research project and the characteristics of the collected data, as well as by the completed procedure of data processing and the conclusions drawn from them.

An analysis of known reports on research results (and research) has revealed the following most common structure:[4)]

A) A statement on the existence or non-existence of certain phenomena or their direct and/or indirect manifestations;

B) For phenomena whose existence (in the present, past, future) has been established, the following determinations are necessary:

a) temporal (duration, continuity, succession, intermittence, periodicity, etc.);

b) spatial (place, space, distribution, density);

c) of form, content, and essence;

d) of qualitative and quantitative properties;

e) of relationships and connections (conditionality, causality, sequence and order, hierarchy in the order - system, etc.);

f) of significance and meaning (for people, society, the system, etc.).

The content of the enumerated statements depends in every research primarily on the conclusions based on the data, and is determined primarily by the subject, objectives, hypotheses, and indicators of the research.

The mentioned parts of the structure are not necessarily equally present in all reports.

The structure of the report's content can be systematized (arranged) in the report according to one of two basic conceptions. *The first* we can call *linear*. It involves presenting the research results from the beginning to the end-in the order the research took place: a) the social-scientific problem; b) the research project; c) the implementation of the research; d) the research results, or rather: (a) starting premises; (b) knowledge gained through hypothesis testing; (c) conclusions; (d) synthesis.

The second conception changes the order, first communicating the essential synthesized results of the research in order to then justify them in the subsequent procedure.

The choice of one of these conceptions depends on the specific purpose of the research and the client's requirements. For example, in action research, the solution and its application are essential, and the client insists on that.

The report on research results can be *unified* ("monolithic") or *segmented*.

The unified ("monolithic") type of report is characterized by:

a) a unified way of processing the basic content of the subject;

b) intense internal logical-content coherence;

c) gradual and systematic presentation;

d) a firm, stable order of relationships between the parts, and between the parts and the whole of the report.

This type of report appears in three variants. The first is the *linear flow report*, whose essential feature is a uniquely defined and researched subject; in the report, it is presented part by part, and at the end, unified conclusions are formed. *A milder variation of this variant is a report that operates with data and conclusions reached by applying multiple methods*. Even then, all data are treated in the same way and form the basis and arguments of the same, unified process of proof and conclusion-drawing.

We will call the third variant of the linear flow report the *star-like - linear flow variant*. Its specific feature is that it examines various aspects of the subject separately, with all the examinations ultimately flowing into unified conclusions.

The segmented or collective type of report differs from the previous one in that it consists of a collection of relatively separate-and even independent-reports from which a concluding synthesis may or may not be derived.

The first variant of this type is more rigorous and involves a collection of independent reports, each dealing with a specific issue. They may be connected only by a common conception expressed in the introduction, a brief summary, or concluding remarks. Such reports are suitable for multidisciplinary research.

The second variant requires a stronger conceptual-content and logical-methodical connection with the theme of the general project. This is achieved by forming a summary, concluding report based on the thematic connection of the segments, which then serves as the report on the results of the general project.

Besides the two already presented concepts of systematization (linear - ascending and descending), a third conception of thematic-problem-based presentation and systematization may also appear. This is a systematization according to specific thematic-cognitive and logical units that are linked together in the unified conclusions or concluding remarks of the concluding - final report.

2) Basic Contents of the Concluding - Final Report

The basic content of the report consists of various statements about the research subject and the course of the research. They can be concepts (definitions), positions, judgments, and conclusions, or more complex entities formed from them. In this text, for the sake of brevity, we will call all such statements "statements".[5)]

In reports, we most often encounter apodictic and hypothetical statements, statements of categorical assertion, and statements expressing probability. The aspiration is to arrive at apodictic, categorical statements behind which lies necessary or at least certain knowledge, but unfortunately, in the social sciences, statements that express a basic degree of probability are more common.

Three types of statements are characteristic of final reports:

a) *original statements*, which are original and directly based on the data, primarily empirical, of the given research. The previous standpoint that original statements are based exclusively on empirical data is corrected because theoretical research also exists, and it does not necessarily have to operate with empirical data;

b) *working statements*, which are the subject and means of processing, and mediate between the initial and concluding statements;

c) *concluding statements*, which communicate the knowledge gained through the given research and are derived from the original and working statements.

The aforementioned statements can be diagnostic, explanatory - explicatory, or prognostic, and by their properties and origin, they can be scientific or ideological. They can have the role of being postulative, explicatory, and prognostic, but they can also serve as arguments, not just propositions. Statement-arguments in a report on scientific research must be based primarily on the data collected in the subject research, as well as on axioms, laws, and scientific explanations, and paradigmatic statements. The question of how to protect against ideological statements, even disguised ones, is permanently open.

The following can be accepted as a general rule for the use of statements in the preparation of a report:

a) Statements in a report from empirical research should be derived primarily from the empirical data of that research through induction and generalization.

   Diagnostic statements should be the starting point in constructing the concluding statements.

   Statements from existing theories serve primarily for orientation, and only during explanation and prognosis in the concluding statements can they also serve as arguments.

   In case of disagreement between empirical and theoretical statements, the theoretical statements are subjected to special critical examination.

b) Statements in a report from theoretical research are based on theoretical argumentation and data, and in certain cases, on empirical data as well.

The aspiration of every scientific empirical study is to contribute to and test theory, and therefore the formation of original-theoretical statements is to be expected.

3. Manner of Presenting the Report

The manner of presenting the report must have at least two segments: a) *the style of presentation*; b) *the language of presentation*, and to this may be added the illustrativeness of the presentation.

The report, in one of its presented forms, is presented in writing, in a scientific, selected language and appropriate script. The written report is a meaningful, logical, systematic, and content-rich whole. Its presentation may be accompanied by other forms of communication-oral or other.

In the practice of presenting reports, we most often encounter four types of presentation: (1) *narrative*; (2) *problem-oriented*; (3) *polemical*; and (4) *combined complex presentation*. It is understood that this refers to the predominant, not exclusively one, type of presentation.

Narrative presentation is aimed at a relatively systematic and detailed description based on the original, authentic propositions and data obtained through research. It can be *synthetic*-starting from the particular and arriving at the more general and the general through unification, or it can be *analytic*-starting from general or more general propositions and ending with the elementary factors. In the creation of a report, it is possible to combine analytic and synthetic narrative presentation, which is most often done.

Problem-oriented presentation requires that the question-the subject of consideration-the "problem"-be clearly formulated, then that conflicting views about it and the arguments for and against be presented, and that a judgment be made on that basis. A less correct, but not infrequent, case is to present only the view that is being advocated, or the view that is being disputed, and the arguments in favor of one's own view. A problem-oriented presentation is very stimulating and can be in a tolerant or an arbitrary style. A tolerant style implies an affirmative approach and an effort to consider the problem as objectively and calmly as possible, with full respect. An arbitrary style has a "sharper" aspect and approaches the polemical.

Polemical presentation is a sharp debate about a problem in which one is primarily and emphatically engaged in proving one's own position, during which one is not always distanced from bias. What's more, in some undesirable cases, even the personality of the polemicist is not protected. However, if polemics are understood and accepted only as a more engaged form of problem-oriented consideration, such a presentation can be very attractive and insightful.

Combined presentation can be considered the most common due to the content of the report and the nature of proof and refutation. It seems to be the most productive as well. However, this is not independent of the science and the scientific discipline to which the report belongs.

Every report is expected to be clear, precise, understandable, and verifiable. Language plays a large role in achieving these requirements.

The standpoint that a report should be created in the language of the science or scientific discipline is relatively difficult to achieve. Therefore, it should be operationalized such that the report is prepared in the language in which the research project was prepared. In this way, the aspiration is realized to use the scientific language of the respective science or scientific discipline, to the extent that it has been developed, in the creation of the report. And this means that in multidisciplinary research, either the languages of all disciplines must be used, or some kind of average language must be derived which, along with certain very specific words and expressions, will also provide a "lexicon"-a "dictionary" of meanings.[6)]

A very significant factor in the choice of the report's language is the addressee. The linguistic obligations and solutions differ in a report[7)] intended for a narrow scientific community, from a report intended for the commissioner, and one intended for the widest audience.

The language of a scientific report does not avoid barbarisms-foreign words that have the status of international technical words and phrases, but it does avoid stylistic figures, unclear illustrations, and unfounded constructs. The repetition of the same, strictly defined concepts and terms, statements, and signs with a strictly determined meaning is desirable and cannot be considered a flaw in style. A report must primarily be interesting for its content, for the internal drama of scientific discovery and knowledge, and not for its external features.

In the social sciences, a report cannot be prepared in any "artificial language," but it can and should be transferred to a computer language (one of the computer languages). A computer language should be understood as a "service" language, and that under the conditions of their unification.

Research can lead to findings for which we do not have ready-made words or expressions. It is desirable for certain necessary words to be constructed with an explanation and with the aspiration that they be associative and can fit into conventional, valid language systems.

Illustrations in a scientific report are not used for the sake of improving the style and aesthetics of the text but are in the function of: (1) better, more accurate, and more complete understanding and comprehension; (2) argumentation for proof-or refutation; (3) presenting and describing phenomena and their characteristics; (4) quantitatively expressing quality.

Therefore, the most common illustrations are: photographs, drawings, sketches, maps, schemas, diagrams, tables, rankings, and less often, mock-ups and models, and selected statements of a special social status.

It is necessary to distinguish between illustrations embedded in the text of the report and those given in the appendix. Illustrations embedded in the text are directly connected with a specific part of the text and thus gain the role of a specific form of its expression. They must be accompanied by certain connecting sentences, numbering, legends, and the like.

Illustrations in the appendix relate to larger wholes of the report and, in essence, they speak of the basis and arguments of the report, and so they cannot be considered illustrations but rather essential integral parts of the report-its appendices.

The report, as a rule, ends with conclusions (which is better) or with concluding remarks (which is less binding). However, research reports for special purposes can have-or must have-another special part in which reference is made to the practice of applying the scientific knowledge acquired through the research. We can call this part the practical-instructive part. It does not refer to proposals regarding further scientific activities, but to the practicing of solutions. Its content, as a rule, consists of two essential groups of systematized knowledge: A) the basis for making various decisions, and B) offered solutions in the form of models or various elaborations.

Into the first group (A), we will classify the so-called "digest" reports, as suggestions on how to interpret certain propositions and how to apply them. This group also includes the most diverse overviews, among which the following have a special role: a) an overview of the essential and most important, directly usable propositions of the report; b) overviews of the essential data, used directly and indirectly in the creation of the report - by origin; c) an overview of recommendations; d) an overview of open propositions; e) an overview of open questions and the most important hypothetical propositions - derived propositions; f) an overview of the discovered, conceived, or constructed models of significance for practice.

The second (B) group consists of proposals for complete acts (legal, organizational), proposals for concrete, operational measures and, in a word, various, directly applicable elaborations, models, mock-ups, and the like. The second group is characteristic of action research.[8)]

1. Sakan, Momčilo: *The Creation of Professional and Scientific Works*, Belgrade, 2000.

2. Milošević, Novak: *Method and Methodology of the Art of War*, Center for Higher Military Schools, Institute for Strategic Research, pp. 208-220.

(1). Milosavljević, Slavomir: *Research of Political Phenomena*, Institute for Political Studies, Belgrade, 1980, pp. 285-287.

3. Milosavljević, Slavomir: *The Report on Scientific Research*, Center for Higher Military Schools, Institute for Strategic Research, 1990.

4. Goode and Hatt: *Methods in Social Research*, pp. 339-353.

5. Lekić, Đorđe: *Methodology of Pedagogical Research and Creativity*, pp. 345-352. Reinberg, S. A: *The Methodics and Technique of Scientific Work*.

6. Goode and Scott: *Methods of Research in Pedagogy, Psychology, and Sociology*, pp. 665-705. Šuković, Filip: *Informal Social Relations in Associated Labour Organizations*, pp. 61-118.

7. Milosavljević, Slavomir: *The Report on Scientific Research*.

8. On the report about research results, see:

(1) Vujević, Miroslav: *Introduction to Scientific Work*, Zagreb, 1988, pp. 125-133.

(2) Fitzgerald, Jack D. - Fox, Steven M.: *Research Methodology in the Criminal Justice Sciences*, Sarajevo, 2001, pp. 211-222.

(3) Ristić, Živan: *On Research, Method, and Knowledge*, Institute for Pedagogical Research, Belgrade, 1995, pp. 421-427.

(4) Mihailović, Dobrivoje: *Methodology of Scientific Research*, FON, 1999, pp. 255-266.

(5) Termiz, Dževad - Milosavljević, Slavomir: *Introduction to the Methodology of Politicology*, DAX-Trade, Sarajevo, 1999.

(6) Milosavljević, Slavomir - Radosavljević, Ivan: *Fundamentals of the Methodology of Political Sciences*, Belgrade, pp. 634-663.

(7) Termiz, Dževad - Milosavljević, Slavomir: *Practicum in the Methodology of Politicology*, Sarajevo, 2018, pp. 435-441.

XV - USING THE RESULTS OF SCIENTIFIC RESEARCH

XV - USING THE RESULTS OF SCIENTIFIC RESEARCH

1. Science and Scientific Knowledge as a Basis for the Advancement of Social Practice Research Results in Practical Application

Scientific research always, in principle, has two goals. The first is the so-called scientific goal, which requires that the research achieve a relatively reliable scientific knowledge of a certain level (a description of the research subject, a classification-typologization, a scientific discovery, a scientific explanation, or a scientific prognosis) or, if it is a complex research with multiple sub-projects, then multiple different scientific goals depending on the level of development and the available level of scientific knowledge for each part of the project (for each sub-project) separately. The second is the so-called social goal, which is aimed at the improvement and development of the part of social practice to which the research subject relates. Scientific research has specific goals and purposes, and scientific, especially scientifically verified knowledge and scientifically based hypotheses are the basis of all contemporary societal progress.

For our considerations, the contributions of scientific research in the scientific-educational sphere, especially in the field of studies, are of particular interest. Here, the results of research are manifested in multiple ways. First, the content that is studied according to the curricula and syllabi are the results of scientific research. Second, the educational-teaching process is studied based on the results of research into the teaching-educational process, which is the concern of pedagogy and andragogy. During their studies, students not only use the results of research but also verify them (through seminar papers) and create new results (through student research, undergraduate, postgraduate, and doctoral theses, as final papers for certain levels of study).

The application of research results in social practice is realized through the creation of elaborations (business-study papers), normative and instructive documents, and their adequate application.

1.1. Using Research Results in the Creation of Undergraduate Theses

The creation of an undergraduate thesis implies the fulfillment of a school obligation by which the acquired level of knowledge and the creative ability of a certain candidate are demonstrated in a systematized way. An undergraduate thesis is the treatment of a given (selected and approved) topic at the level of a correct interpretation of existing scientific knowledge and a critical consideration of hypothetical, scientifically founded propositions. Of course, undergraduate theses can also have a higher level-for example, they can be a successful resolution of a scientific or a complex professional problem. The length of an undergraduate thesis, when it is in written form, is around 50 pages (three author's sheets). However, there is no fixed limit. Undergraduate theses of over 150 pages are also known. The length, systematization, number of parts of the work, and its internal features, as well as its physical form, depend on the character and type of the work, and on the candidate and the mentor.

In the creation of undergraduate theses, already formed and published research results are primarily used, which are themselves researched during the creation of the undergraduate thesis.

An undergraduate thesis is an individual, independent, authorial work of a graduating candidate which may, but does not have to, provide a scientific contribution. The role of the mentor is only encouraging and guiding and, to some extent, verificatory, as the defense of the thesis takes place before a committee, as a rule, of three members.

1.2. Using Research Results for the Creation of Postgraduate Theses

The creation of postgraduate theses. In contemporary conditions, which are characterized by the transition of the school system and higher education to the Bologna concept-system, the following forms of final postgraduate theses appear: specialist, master's, magister's, and doctoral theses. There are certain connections among them and some of their features are common, but there are also great differences among them.

1.3. Using Research Results for the Creation of Specialist Papers

Specialist papers are works by which, as a rule, in written form and in a synthesized way, a higher professional competence in a specific narrow field of a certain profession is manifested through the treatment of a specific topic. Orientally, the length of the paper is around 75 pages, but there is no strict limit. Specialist papers must contain a contribution to solving a highly professional problem, but they do not have to contain a scientific contribution. However, some specialist problems border on and even cross over into scientific problems (so-called expert problems), and so a scientific contribution is not excluded in these works. The role of the mentor is somewhat smaller than in the creation of undergraduate theses, but still contains a guiding, encouraging, and verificatory function.

1.4. Using Research Results for the Creation of Master's Theses

Master's theses are a transition between specialist and magister's theses. There are also differences among master's theses because there are academic and professional studies. Some professional studies also have master's studies. These master's studies are aimed at further, higher, professional development, but their completion does not grant the right to enroll in doctoral studies. The master's theses in institutions of professional studies are appropriate for this.

Master's theses in academic studies are more oriented towards connecting science and the profession, and the emphasis is on the scientific aspects. These independent, individual, and creative works must also have scientific components and must manifest the candidate-author's ability for creative work in a specific field of science. In both cases, the role of the mentor is primarily encouraging and guiding, although their verificatory function cannot be avoided either. Without a positive evaluation of the work, given by the mentor, the work does not proceed to the next stage. The thesis is defended before a committee, and a defended thesis grants the right to doctoral studies. The length of the thesis orientally covers about 120 pages, although defined limits are not prescribed, but depend on the topic and other characteristics of the work.

1.5. Using Research Results for the Creation of Doctoral Dissertations

A doctoral work (dissertation, doctoral thesis) is the highest level of a final work in the hierarchy of the educational system.

An essential condition for acquiring the right to apply for and create a doctoral thesis (dissertation) until the introduction of the so-called Bologna concept of higher education was the creation and successful defense of a magister's thesis. A magister's thesis had to be an independent, creative treatment of a topic of scientific significance of about 120 or more pages, and the magister's work had to contain elements of a scientific contribution. On the basis of a defended magister's thesis, one could apply for or defend a doctoral thesis (dissertation). The defense of a magister's thesis took place before a committee of at least three members, of which, in addition to the mentor, another competent member had to be a professor or scientist from the narrowest scientific-teaching field.

With the application of the so-called Bologna concept-the Bologna Declaration-the conditions for acquiring the right to apply for and defend a dissertation have changed. A master's degree became the condition for doctoral studies, and the curriculum and syllabus of the doctoral studies regulated the areas in which one could obtain a doctorate. In this way, the doctorate gained a more pronounced feature of a final work at the highest level of studies, although it retained its property as the first independent, formally verified, scientific work, publicly defended before a competent committee.

The length of a doctoral thesis (dissertation) is not prescribed, but according to the prevailing customs, it ranges from about 220 pages of text up to about 400, which is sufficient for a scientific monograph or study. A dissertation must solve a scientifically and socially significant problem and, through the treatment of the topic, provide a scientific and social contribution.

Here is the translation of the requested text.

2. The Process of Creating Final Theses in Institutions of Higher Education

The procedure for acquiring professional and scientific knowledge is prescribed by: a) state laws and bylaws; b) internal regulations of the institutions where specific qualifications and titles are acquired; and c) regulations of other authorized bodies.

However, the basic flow of this process, with minor specific deviations, is essentially the same.

2.1. Choosing the Topic for Elaboration

Choosing the topic for elaboration in a final thesis at any level is a process of serious and responsible work, not a simple act. However, there is a relatively large difference between choosing a topic for an undergraduate thesis and a topic for a postgraduate (specialist, master's, magister's, or doctoral) thesis. There are some informal rules that have emerged through practice, which candidates should adhere to for their own benefit.

The choice of a topic for an undergraduate thesis can be very limited by the institution prescribing which topics will be available for work in a given academic year. The candidate's options are to choose one of the topics from a specific list, if someone else has not already reserved it.

The other criteria for choosing a topic are more or less the same, although the choice of a topic is never entirely free. By enrolling in specific postgraduate studies, the candidate has already undertaken to choose a topic from a specific scientific-educational field. The choice of topic will also be influenced by the extent to which that field has been researched and by the potential mentor.

The first criterion for a candidate when choosing a topic is (and should be) a genuine *interest* in a *specific scientific-teaching subject area*. The greater the interest, the greater the knowledge of that subject area. The choice of topic is made with more competence, and its elaboration is thus easier and more attractive.

The second criterion is *the scope of the task(s) in elaborating the topic*. The scope of the task implies the actual number of preparatory and ongoing actions and the time required for the work. The more original and less researched the work is, the greater the demands. The smallest scope and quality of work is that which is an interpretation of a certain number of fundamental works on the thematic problem (which is most often the case with undergraduate theses), and the largest is when the topic relates to an unresearched problem area. Some pre-research and consultations can help significantly here.

The third criterion is the actually available literature. Actual availability differs greatly from formal availability simply due to the factual physical accessibility of books and the possible time for their use. A few books for many users is equivalent to the unavailability of literature.

The fourth criterion is *the availability of the sources necessary for empirical and for combined (theoretical-empirical) research*, that is, for topics that require such research.

The fifth general criterion is *the factual accessibility of the foundations for elaborating the topic*, not just physical but also cultural, educational, and functional. Poor accessibility of an educational-cultural character (e.g., insufficient knowledge of foreign languages or scientific-professional terminology, and sometimes even of one's own native language and level of literacy, can be the cause of many difficulties).

The procedure for approving a topic for a candidate to work on, among other things, also serves to assess the accessibility of the topic in relation to the intellectual and educational capabilities of the candidate!

2.2. Choosing a Mentor

Choosing a mentor is a two-sided, but also multi-layered relationship between the candidate and the mentor, because just as it is the right and possibility of the candidate to choose a mentor, it is also the right of the mentor to accept or decline the mentorship of a specific candidate's thesis. The higher the level of study, the greater the possibilities for choosing a mentor or for being accepted as a candidate. Unfortunately, in all real situations, there are distinct normative and factual limitations. In all situations and in all higher education institutions, there are prescribed norms or at least established customs regarding the academic-teaching requirements that a certain professor must meet to be a mentor. A suitable individual can successfully perform the duty of a mentor in guiding up to 20 undergraduate theses, up to 10 master's or specialist theses, and 3 to 5 doctoral theses. No professor can guide more than 10 theses of various levels in accordance with the role of a mentor.

The role of a mentor is very responsible; it requires a great deal of scientific knowledge, a dynamic grasp of the flow of science, and a lot of skill, patience, and tact in providing encouragement, guidance, and evaluation of the work-and of the candidate, because the relationship between the candidate and the mentor is necessarily a collaborative one.

The first criterion for choosing a mentor is their *scientific* and *teaching*, *formal* and *real status*, their reputation, and the basis of that reputation. The problem is that the most recognized and reputable are simultaneously the busiest, and thus the most difficult to persuade to accept a mentorship.

The second criterion is the mentor's *actual workload*. Two key indicators are important here: first, how many candidates they are already guiding; second, in how many places and on how many subjects they are already performing teaching and scientific-research functions. An over-busy professor and researcher cannot be an effective mentor because there are natural limits to one's work and intellectual powers.

The third criterion is the potential mentor's *interest* in performing the mentoring role. Working with a candidate is rarely pleasant and attractive, and it is very responsible and, as a rule, poorly paid. Therefore, mentoring work is stimulated by the fact that it is one of the criteria for promotion to a higher teaching-scientific title. However, there are two other essential reasons for accepting a mentorship: a) conscience and the responsibility to properly perform one's roles and functions; b) the satisfaction from successfully participating in and contributing to the emergence and development of a new creator in science and in life practice.

The fourth criterion for choosing a mentor is their *interest in a specific topic*. This is relatively easy to discover through their published works and direct communication.

The fifth is the mentor's *speed of work* and *response*, which is manifested through their previous practice. A slow mentor is the cause of a slow process.

The sixth criterion is the *objectivized benevolence of the potential mentor, balanced and without undesirable bias, based on moral, socially positive reasons.*

2.3. Submitting the Request to Work on a Specific Topic - to Create a Specific Final Thesis

The procedure for submitting an application-a request-to create a final thesis at any level is prescribed by law and the internal regulations of the institution. They decisively determine the procedures, the forms, and the content of the documents that must be submitted and the payments that the candidate must make, including all valid deadlines by which the mandatory actions must be completed. Given that the situation differs from institution to institution, every candidate must personally inform themselves about the procedural obligations at the institution where they will want (be able) to apply for and create their thesis. Instead of dealing with the various regulations, we will focus here on the flow and the essential actions in applying for the thesis-that is, the topic-under the assumption that the candidate has previously fulfilled the requirements.

The first act in preparing the application, after the orientational choice of the topic and becoming acquainted with the regulations that govern the application submission procedure, is the necessary consultation with a potential mentor. In this regard, there are significant differences between consultations with a mentor for an undergraduate thesis and for postgraduate and doctoral theses. In the creation of undergraduate theses, the possibilities for choosing topics and mentors are very limited, and so the first consultation takes place more as an instruction to the candidate on how to approach the creation of the application and how to conceptualize their work, and which literature to use. Although an undergraduate thesis is a final school paper, it is useful to go to the first consultation with the mentor already prepared. This means that the candidate, using seminar papers or a specific seminar paper, has formed a possible title and expressed the possible content of the topic through several subheadings, that is, headings of the parts of the thesis, and has also listed the essential basic literature. For that first conversation with the mentor, it is useful to have a written justification prepared as well. In this way, it is easier to obtain the professor's consent to be a mentor, and they are given the opportunity to consider the topic more carefully and to give more concrete instructions. Possible misunderstandings or misinterpretations are also avoided in this way.

In postgraduate and especially doctoral studies, the course of things is different. The basic orientation towards a specific set of problems, and thus a topic, is already known from the creation of the research project as an exam requirement for the course Methodology of Research, or Methodology of Science. Other required works, e.g., seminar papers, although from various subjects, can also be aspects or factors of the topic of the future thesis, and so the first consultative conversation does not have the character of a first working contact, but of a discussion, a qualified consideration of the draft of the content and the justification of the topic, the literature and the source material, and if a doctoral thesis is in question, the genuine scientific contribution is particularly emphasized. This is indeed the key problem of every dissertation and every consultation with a mentor.

While the first consultation with a mentor when submitting an application for an undergraduate thesis has a predominantly instructive character, the first consultation with a mentor regarding a final thesis in postgraduate and doctoral studies has a predominantly verificatory character. Namely, the mentor then primarily verifies the candidate's concept and points out to them the open questions regarding the realization of the basic concept, and guides and instructs the candidate primarily at their request. A very sensitive issue in the contemporary situation is the familiarity with the latest and most significant literature and its accessibility.

The second act, after the consultation with the mentor, is the creation of a working outline of the topic's content. At first glance, this is a simple job-"surely everyone knows what they should write about"! However, every *content outline* should have:

(1) An *introduction*, in which it will clearly state: the problem and the subject that will be treated; the scientific and social goals; the basic hypotheses that will be tested and the indicators; the scientific approach-the paradigm and the methods that will be used; and, understandably, the scientific and social justification. In addition, it must also state the essential categorical concepts, more precisely their valid definitions.

(2) The second part of the content *elaborates on the research subject* in that thesis. This part of the content can be presented in several ways, but the most comfortable, it seems, is the following: a) one chapter in which the initial knowledge about the subject of the thesis is presented, about it as a structure, system, and process, and the relations in connection with that; b) one chapter on the fundamental scientific questions that are posed in relation to the subject of the thesis; and c) one chapter on the concept of the search for answers-on the projections of answers to the recorded-presented questions.

(3) The third part of the content is the *conclusions* or *concluding remarks* in which the scientific results of the research are presented. This

part of the application is probably the most important and the most difficult to set up. Its creation, especially in applications for doctoral theses, as a rule, relies on extensive pre-research and very reliable and sufficiently extensive knowledge about the subject. Only if the research subject is a completely new phenomenon (which is very rare in the social sciences) is knowledge about it not required, and the content is conceptualized according to the knowledge of related phenomena.

The content of the thesis expresses the concept of the structure of the systematization, as well as the understanding of the whole of the phenomenon, problem, and subject of research in the work. It is justified to claim that it is a synthesized, understood result of previous research, preparatory pre-research, and the knowledge and inspiration of the candidate.

The third complex action is the justification of the topic. It may seem that this is a task of lesser complexity because someone who has already made a certain proposal for a topic and its content also knows why they did it exactly as they did. However, to justify the topic and the content of the work through which it will be treated and, probably, successfully treated, requires answers to the questions: why was it set up just so, why is the subject structured just so, why are the hypotheses and indicators just so, why were these particular methods and techniques of research chosen, etc. The justification of the topic-the research-the thesis must offer clear and convincing answers not only to the candidate-author and the mentor but also to all other participants in the procedure of approving the topic for elaboration, and even to the potential users of the work. The work is not an end in itself. That is why the statement about the scientific (expected) contribution (scientific and social goals) and about the contribution to science and social practice (scientific and social justification) is required in the structure of the thesis. The justification of the topic, the content, the systematization, and the flow (manner) of the creation of the thesis is the essential clarification of the problem that will be resolved through the research-the elaboration of the topic.

The fourth action is the consultation with the mentor about the content of the thesis and its justification. The questions of whether and why this is necessary are not asked. The content and the justification of the topic are the essential characteristics of the application for the topic and the thesis and the basis for the assessment of the acceptability of the topic and the thesis, as well as a legitimation of the competence of the candidate, and to some extent, of the mentor as well.

In practice, candidates ask: Is it not simpler and easier to have a separate consultation about the content of the topic-thesis, and a separate one about the justification? Of course, that is possible, but the disadvantages of such a course of the process are at least the following: (1) it is necessary to schedule and participate in two meetings, which is a waste of time, especially if the mentor is over-busy; (2) the questions of "why" and "how" will be asked even during a separate consideration of the content itself. There will be fewer of these questions and the answers will be easier if the justification is also given; (3) any interventions by the mentor will be more direct and more functional when they have insight into both the content and the justification, which gives the possibility for the final text of the application for the topic-thesis to be done immediately after the consultation. The efficiency and productivity of the candidate-mentor communication is an essential reason for the simultaneous consideration of the draft of the content of the topic-thesis and its justification.

The members of the committee for the assessment of the suitability of the topic are not known before the submission of the application because the competent body appoints them after the application has been submitted. However, the mentor knows which of the professors, according to the existing criteria, can be the chairman or a member of the committee, and can direct the candidate to certain individuals to have a consultation with them-if it is necessary.

After the consultations have been completed, the candidate prepares the final text of the application for the topic/thesis and, in accordance with the valid regulations, submits the application to the competent authority.

The candidate's final action in this phase of the process is to create a dynamic plan for further work, to follow the progress, and, if necessary and possible, to intervene in order to receive the decision as soon as possible. During this period, they should maintain appropriate communication with the mentor and the head of the department.

2.4. Creating the First Version of the Thesis

Until the final decision of the competent body on the acceptance of the application and the approval for the creation of a specific thesis (undergraduate, postgraduate, doctoral) on a specific topic, the candidate carries out preparations for the elaboration of the topic in accordance with their dynamic plan. These preparations mainly consist of securing the possibility of accessing appropriate sources and literature. As a rule, most of the submitted applications that are well-prepared are approved without objections, a smaller number with certain suggestions, and it happens very rarely that an application is rejected. This is a consequence of respecting the previous results of scientific research and of carrying out the complex process that we have described in the previous parts of this text. Based on already known practice, the candidate can, even before the official decision on the acceptance of their application is made, begin studying the literature that is the foundation of their work, that is, the works of the "main" author that serve as their basic orientation. This is advisable for two reasons. The first is that the candidate remains in the mood and in the process of working, which is important for the candidate's "mental fitness." The second is that it shortens the time needed to create the thesis.

It is advisable to begin the creation of the first version by studying the text of the approved topic and the content of the thesis. The approved content of the thesis obliges the candidate to treat all the matters that are in the content of the approved thesis, and to do so in the adopted order and to the approved scope. There may not be a difference between the proposal in the thesis application and the approved thesis, but there are cases in which even significant changes are required in the content, and even in the title of the thesis. Such a case requires a considerable effort to change the conception and organization of the work, perhaps even the paradigm, in order to adapt-harmonize-the topic and the thesis with the set requirements. There are known cases in which the engagement around the application for a postgraduate and doctoral thesis lasted for several years. It is necessary, after the official approval of the topic and the thesis, to establish by a critical study of the approval what the obtained approval obliges us to do and what it allows us. And it is rational to discover how the mentor understands the obtained approval and what they expect in the further work. In this sense, an appropriate conversation with the mentor about the future work can be stimulating and productive for both the candidate and the mentor.

The *technique of working* on the creation of the text in which the approved topic, that is, the content, is elaborated begins with making so-called *excerpts* from the most important works and reports on previous research on which the candidate relies and to which they will refer in their work. The excerpts are not made at random. On the contrary, it is a systematic work at whose basis is a *framework*, *orientational glossary of terms*. Every speech or written text consists of a multitude of interconnected, meaningful statements, and their essential factors are concepts of a certain meaning and the terms (words) by which they are expressed. A glossary of terms is a systematized overview of the concepts (words, terms) that are necessarily used to form the statements in the thesis. In every proposal of the thesis content and in its justification, the essential, central concepts that are already found in the title of the topic are listed. The other essential concepts are given in the listing of the content. Accordingly, the framework orientational glossary will contain those concepts, those essential words by which the content and the justification of the content of the thesis are expressed. For example, *Political Attitudes Expressed in TV News Programs in 2008 on TV BiH channels*, requires that the glossary include: (1) definitions of politics and the political; (2) definitions of attitudes and political attitudes; (3) definitions of statements and their forms: a proposition, a judgment, a conclusion-an assertion, a doubt, a query; (4) TV programs, shows, and genres; (5) definitions of time and space (social, calendar, limiting, scope, etc.). The entries in the glossary are the criteria for arranging the excerpts by their key subject of expression.

Let us look at what the excerpts essentially contain. First, excerpts from literature contain: data about the author (name and surname), the title of the work, the publisher and place of publication, the year of publication, and the page on which the respective statement is located. A properly recorded excerpt later serves two purposes: the first is to, by connecting, comparing, and confronting it with related thematic statements, build one's own subject-related statement (e.g., about the definition of politics and the political); the second is that it serves as argumentation to which the candidate-author refers in the form of a note or a "footnote."

"Footnotes" are short notes (except in exceptional cases) that the creator of the text places at the bottom of the page and marks with the same Arabic numeral in the part of the text to which the note refers. The content of the footnote is a statement by another author to which the creator of the text refers, expressing agreement or disagreement with it. It is obvious that the excerpts are a functional basis for creating the text of the approved thesis and that the glossary is the basis for creating the index of concepts and names at the end of the thesis.

The activity of creating the first version of the thesis proceeds as follows:

(1) By studying the approved thesis application, one notices the well-founded postulates and assumptions. The assessment is based on the previously studied literature, the glossary, and the excerpts;

(2) Discovering ambiguities, shortcomings, and weaknesses in the approved application and in the literature used in the meantime. Here too, the assessment is based on the knowledge from the used literature, the glossary, and the excerpts, but also on the basis of creative intuition;

(3) Compiling an overview of the shortcomings and open questions and a critical consideration of the directions and methods for their resolution;

(4) Further research of existing scientific research results, competent literature, and sources in order to obtain data to eliminate the shortcomings and weaknesses;

(5) Filling in the gaps, correcting errors, pointing to further developments, and discovering new possible hypotheses in order to create the complete text of the first version of the thesis.

The first version of the thesis expresses:

The reasons for the research through: a) an introductory note; b) a preface or part of the introduction; c) possibly through an afterword; and d) a concluding note;

I. The methodological approach to the scientific research:

(1) the problem and subject of the research;

(2) the scientific and social goals of the research;

(3) the hypotheses and indicators;

(4) the scientific approach-paradigm and the methods of research;

(5) the scientific and social justification of the research;

(6) the categorical concepts and their valid definitions.

II. A critical treatment of the knowledge in the used literature and previous research results;

III. The presentation of the findings (the results of the respective research) achieved on the subject - the topic of the thesis;

IV. The presentation of the conclusions (concluding remarks) in the form of decisive propositions about the essential characteristics of the subject - the topic of the research. These are propositions that confirm (fully or partially) or form new hypotheses, classifications or typologizations, explanations, and/or prognoses;

V. Suggestions-recommendations on the possibilities of applying the research results in science and in scientific-research work, and the possibilities and conditions for applying the scientific knowledge and the results of the specific research in social practice;

VI. The formation of appendices (additions) to the text, such as: a) a set of maps, images, etc., that contribute to understanding; b) a shortened overview of questions and standpoints for easier and faster information; c) an overview of instructive provisions or complete instructions;

VII. The literature used-a list (citation) of the literature used.

In the practice of every institution, there are customary forms and technical solutions for creating and submitting the thesis to the mentor. These solutions should be respected. However, it is still only the first version, to which the mentor can make objections and suggest changes. Therefore, enough space should be left in the margins and in the line spacing of the work for these objections. The work itself should be typed (printed) in a large enough font so that the mentor has no difficulty in reading-reviewing-the work.

When the first version of the thesis is prepared (written, corrected, and copied into at least two, though more-up to 10 copies-is better), the work is submitted to the mentor, and a consultation is arranged with them. The time gap between the submission of the first version and the consultation is around two weeks (14-15) days, but this time period depends on the agreement between the mentor and the candidate.

The mentor reviews and evaluates the first version, makes comments, and offers suggestions in the form of notes directly on the work (which is more convenient for the candidate) or as notes for themselves on the basis of which they will conduct the conversation with the candidate.

During the consultation with the mentor, the candidate's tasks are to: a) listen carefully to the mentor's comments and suggestions; b) ask for further clarification on anything that seems insufficiently clear or unacceptable; c) take precise notes of these comments; d) demonstrate goodwill and a readiness to accept the comments and suggestions. One should not assume that the mentor will not read the work again before allowing it to proceed to the next stage. An attempt to deceive the mentor can lead to great, even irreparable, trouble and damage.

After the final consultation with the mentor, the candidate proceeds to create the final version of the thesis, incorporating the mentor's suggestions and criticisms. At the same time, they entrust the work to appropriate individuals-experts for proofreading and language editing. During language editing, problems can arise due to the differences between the language of the profession and the recognized standard language. For this reason, the language editor cannot only be an expert in the spoken and standard language, but also in the language of the specific profession and science.

2.5. Submission of the Final Version of the Thesis

There are two essential phases in the submission of postgraduate and doctoral theses. The first phase is the submission of the final thesis to the mentor, who will study it and, if the work meets the valid criteria, give it a positive evaluation and accept it. They will then write a short assessment stating that the work fulfills the conditions for a committee evaluation and will send that assessment to the competent authority with a proposal to form an appropriate committee for the evaluation of the thesis. If the work is not satisfactory, the mentor will return it for revision. This is one of the important reasons to act carefully and responsibly in accordance with their comments and suggestions.

The second phase is the submission of the thesis to the evaluation committee. Each institution separately prescribes the procedure and the format for submission: how it should be bound and copied if the work is in written form, how many copies are required, or the format for electronic submission (which is still a rarity), and whether an abstract and its translation are needed, etc. The work must be prepared and submitted to the specific competent authority in the required number of copies and with the performance of the foreseen accompanying actions.

After submitting the thesis to the committee, the candidate begins to prepare for the thesis defense.

The committee that evaluates the thesis can deem it suitable for public defense without additional requirements, it can have certain requirements for revision, or it can deem the thesis unsuitable for defense.

2.6. The Thesis Defense

The thesis defense is also regulated by state regulations and the regulations of the respective institution. The differences in the manners and procedures of the defense arise from the properties, social functions, and status of the institution.

In principle, the greatest differences in thesis defenses exist between the defenses of undergraduate theses and postgraduate theses, including doctoral theses. The key difference is that the defense of an undergraduate thesis, even when it is before a committee, does not have to be announced in the press with the date and place of the event. Also, an undergraduate thesis does not have to be held for public review for a specific period, which requires a somewhat different procedure.

Postgraduate and doctoral theses are first positively evaluated, and only then are they exposed to public review-about which the public is informed through the media. Theses that the committee deems not yet suitable for public defense are not exposed to the public but are returned to the candidate (and mentor) for revision or are finally, which is only in exceptional cases, rejected. Such a case is, for example, when it is discovered that the work is a case of plagiarism and the like.

During the time the work is exposed to the public, various subjects-members of the public-from the most competent to the completely incompetent, can make comments and suggestions on the work.

If there are comments on the work, the evaluation committee is obliged to consider and assess them, to determine what influence they have on the evaluation that the committee has formed, and to inform the competent body (the Faculty Council) about it. That body will decide, at the proposal of the Committee, whether the thesis will go to a public defense or will be postponed for a certain time so that a correction can be made in accordance with the accepted comments.

When there are no comments, the evaluation committee submits a report that the thesis is suitable for public defense and that during the time it was exposed to the public, there were no comments. The competent body then forms a committee before which the thesis will be publicly defended. That committee has at least three members-a president, a member, and the mentor, but it can have more members. At least two members should be scientists-professors from the narrowest scientific field to which the thesis topic belongs.

The committee schedules the date and place of the public defense, and this is announced in the media. It is recommended that the time gap between the formation of the committee for the public defense and the defense itself not be longer than about ten days.

The administration of the institution is obliged, by the decision of the management, to provide a suitable room and technical equipment for the normal conduct of the public defense.

The candidate's preparation for the public defense begins from the day the mentor submitted the work for committee evaluation. It is recommended that the candidate attend several defenses of similar works in order to get accustomed to the usual procedure.

The defense procedure generally proceeds as follows:

A) At the scheduled time and in the designated place, the president of the committee opens the public defense;

B) The following are read:

  a) information about the candidate;

  b) the committee's evaluation of the thesis;

C) The candidate presents the propositions of their introductory speech, which most often contains:

  a) the reasons that determined their choice of topic;

  b) the challenges and difficulties they encountered while working on the topic-creating the thesis;

  c) the essential contributions to science and the scientific discipline and to the resolution of the problems they treated in their work;

  d) the questions and hypotheses that should be treated in the future, which were arrived at through the work on this topic;

  e) gratitude for support;

  f) the intention for future engagement.

This speech is not a retelling of the work or of the concluding remarks in the thesis, but is a synthesized presentation of the essence of the conducted research and its results. The introductory speech is most effective when it lasts 15-20 minutes and if it is not read, but only a reminder is used. However, in some institutions, presentations are customary-which essentially amounts to illustrating with schemas, diagrams, etc., what has been said-or what is about to be said.

After the introductory speech, questions and examinations of the already formed positions of the committee for the defense of the thesis-who are, as a rule, the same members of the committee for the evaluation of the thesis-follow. The primary function of the questions from the committee members is to stimulate the candidate to eliminate some ambiguities in the work or to more strongly emphasize the contributions of the work, or even to expand and deepen the contributions of the work.

For the preparation of the answers, the candidate may be given a break of about 15-20 minutes, or they may waive the break.

After the break, the candidate presents their answers to the questions of the committee members, concisely and concretely.

If there were any relevant questions from the audience, they answer those as well.

During the giving of answers to the questions, conflicting views may arise between the examiner and the candidate. The candidate is not obliged to agree with the views they do not accept, but is obliged to explain their disagreement and to argue it properly.

Upon the completion of the answering, the Committee withdraws to make a conclusion about the defense of the thesis and, in the end, ceremoniously announces it to those present. The official record of the Committee's decision is obligatorily read.

The institution where the thesis was defended issues:

a) at the request of the candidate (who has defended an undergraduate, graduate, master's, or doctoral thesis) a certificate of the acquired title by the defense of the thesis. This is a document of temporary validity;

b) a diploma in accordance with the valid regulations.

In the current situation, doctorates of science are specific in the role of the University in approving the topics, evaluating-accepting the theses, that is, the committee reports on the suitability of the theses for public defense, and the authorization to, according to the prescribed procedure, promote those who have defended their dissertations to the title of doctor of science. The awarding of the diplomas and the promotion to the title of doctor of science concludes the process of acquiring academic-scientific titles on the basis of the creation and defense of a thesis before an appropriate committee. Any further advancement and acquisition of new titles and statuses is connected with several other criteria of the profession and of science.

Every doctor of science and every magister have the right to acquire new, other master's degrees and doctorates. The number of master's degrees and doctorates that can be acquired is not limited, except by the situations of reality.

Everyone who has defended their thesis has the right to publish it in an appropriate form (a book, a series of articles, a disc, etc.). It is customary for the work, after the completed defense, to be gradually prepared for publication and for it, so prepared, to be subjected to a peer review by two competent and reputable reviewers.

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Lista dodeljnih standardnih međunarodnih brojeva

Međunarodno udruženje metodologa društvenih nauka, Beograd

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1.	ISBN-978-86-920023-6-6	16/01/2026