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METHODOLOGY OF MODERN PSYCHOLOGICAL SCIENCE

Course of lections

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Compiled by: Associate Professor of Psychology Department of the VSU named after P.M. Masherov, PhD in Psychology **S.L. Bogomaz;** Senior Lecturer of Psychology Department of the VSU named after P.M. Masherov **V.A. Karaterzi**

R e v i e w e r s :
Head of the Department of Psychology and Pedagogy
of the Vitebsk State Order of Peoples' Friendship Medical University,
PhD in Medical Sciences, Assistant Professor *A.L. Tserkovsky;*
Head of the Department of Social and Pedagogical Work
of the VSU named after P.M. Masherov,
PhD in Pedagogy, Assistant Professor *E.L. Mikhailova*

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The course of lections "Methodology of modern psychological science" consists of lectures, questions and tasks for independent work and control for each theme. In generalized form modern concepts, methods and discussion questions; grounds for conducting research in psychology; various methods used in conducting, processing and interpreting research results, methods and forms of their organization. The course of lectures "Methodology of modern psychological science" addressed to master students of the specialty 1-23 80 03 "Psychology". It can be useful for psychologists, teachers, students and all those who are interested in the psychology, professional development and personality formation.

CONTENTS

INTRODUCTION

The *purpose* of teaching the discipline is to form students' most complete, comprehensive understanding of the structure and methods of cognition of subjective reality, about the study of psychophysiological and socio-psychological mechanisms of interaction between man and the environment. The integrity and consistency of knowledge on this issue allows students in the process of professionalization to connect analytical, theoretical models of science with its applied aspects most rationally and consistently.

Tasks of studying the discipline
- to promote the assimilation of basic psychological concepts and categories;
- to form ideas in the field of methodological foundations of psychological science;
- to give an idea of the methods of psychological research.

Place of an academic discipline in the system of training a specialist with higher education (master's), links with other academic disciplines, including academic disciplines: of the component of the institution of higher education, disciplines of specialization, etc.: the discipline "Methodology of modern psychological science" refers to the state component, module " Methodological and methodological foundations of psychological science".

Requirements for the development of an academic discipline (including the requirements of the educational standard):

Competencies
 - AC. To be able to apply basic scientific and theoretical knowledge to solve theoretical and practical problems. To have a skill of system and comparative analysis. To possess research skills. To be able to learn, improve own skills throughout whole life.

 - PC. To use various methodologies for cognition and transformation of social and mental reality. To analyze current trends and problems of psychological science. To be qualified to participate in scientific research in the field of psychology.

As a result of studying the discipline, the student must *know*:
- main directions and problem areas of psychology;
- methods and tools of psychological research;
- main traditions and schools in psychology and their features.

As a result of studying the discipline, the student should *be able to*:
- be determined in the methodological foundations of scientific psychological research;
- analyze the specifics of various approaches and logics to the study of problem areas of psychological knowledge;
- give explanatory models of the analyzed phenomenology;

to provide methodological study of scientific research.

have a skill:

- to use quantitative and qualitative methods of psychological research;

- to use methods of text analysis;

- to determine the criteria for evaluating paradigmatic coordinates and scientific theories.

Forms of current certification in the academic discipline: credit.

This manual includes: a course of lectures on all topics of the discipline, the basic concepts of the topic, questions and assignments on each of the topics, a list of references (main, additional), appendices. The materials of the appendices can be used for independent work.

MODULE 1 METHODOLOGICAL FOUNDATIONS OF PSYCHOLOGY

Lecture 1. The place of the methodology of scientific psychological research in the system of scientific knowledge.

Lecture plan:

1. Definition of the concept of "methodology of science". Method in a broad and narrow sense. Philosophy, worldview and methodology.

2. The structure of methodological knowledge. The functions of methodological knowledge.

3. The level of specific scientific methodology. The level of General scientific principles and forms of research. The level of research methods and techniques.

Basic concepts: *methodology, philosophy, worldview, methodology, methodology of science.*

1. Definition of the concept of "methodology of science". Method in a broad and narrow sense. Philosophy, worldview and methodology.

The methodology of science is a system of knowledge about the principles of construction, forms and methods of organizing scientific knowledge, as well as ways to establish the degree of sufficient validity and verification of knowledge obtained in the process of scientific research of natural and social phenomena.

The methodology of psychology is a system of principles and methods of organizing and constructing the theory and practice of different psychological sciences, their branches and all of them in general, as well as the doctrine of this system.

There are a number of definitions of the concept of "methodology", the most common is the following:

Methodology – 1) the doctrine of the scientific method of cognition; 2) a set of methods used in any science.

Method (in a broad sense) is a way of cognition, based on a certain set of previously obtained general knowledge. In this way, **methodology** is a teaching about the methods and principles of cognition.

Method (in a narrow sense of the word) is the realization of a certain cognitive attitude towards the being studied reality that suggests the use of appropriate research techniques and procedures.

Thus, the "passive" observation method differs from the experimental method as "active" in that the second method suggests an active attitude to test hypotheses: namely, intervention in the studied phenomena. In psychology, the

second understanding of methodology involves the allocation of a system of methods aimed at achieving the goal of cognizing psychological reality.

Because the method is related to the use of prior knowledge, the methodology can be divided into two parts:

1) the doctrine of the initial foundations (principles) of knowledge. Here the philosophical ideas and views on which the researcher relies in the process of cognition are analyzed and evaluated.

2) the doctrine of the methods and techniques of research, based on the initial foundations. Here we consider the general aspects of particular methods of cognition that make up the general research methodology.

In relation to a specific science, the methodological analysis also includes answers to questions about the subject of science, including the criteria that delimit its subject from the subject of related sciences; about the basic methods of this science. The methodology also includes an analysis of the explanatory principles used in science, its links with other sciences, a critical assessment of the results obtained, a general assessment of the level and prospects for the development of this science, and a number of other issues.

The content of the **methodology** is revealed through the system of corresponding concepts.

These concepts include **"philosophy"** and **"worldview"**

Basic in this system is the concept of worldview. This is the highest level of awareness of reality, representing a fairly stable integral system of views (knowledge, opinions, attitudes) of a person on the world and on himself. A worldview is formed as a result of generalization of individual and social knowledge and experience in all spheres of life under the influence of living conditions. The worldview determines the position of a person in relation to all phenomena of reality in the form of his value orientations and principles of activity (including cognitive).

Philosophy is the highest level of a consciously reflected and theoretically formed worldview, set forth in a systematic form.

It is necessary to separate the concepts of "philosophy" and "methodology". Sometimes we can come across the statement that methodology is the totality of philosophical questions of a given science. However, in addition to the philosophical level, the methodological analysis of science includes a number of other levels.

2. The structure of methodological knowledge. The functions of methodological knowledge.

Each scientific area relies on the following types of knowledge:

a) on direct-sensory data of perception of events and phenomena in the world, obtained on the basis of individual observations;

b) rational forms (methods) of fixing sensory data and their subsequent explanation.

The structure of methodological knowledge consists of:

1) facts – the results of empirical scientific knowledge;

2) theories – the results of constructing scientific explanations of known facts.

1) **Scientific facts** are the domain of descriptive scientific knowledge. These are events and phenomena fixed in sign-symbolic means directly observed or registered with the help of instruments.

It is necessary to distinguish between scientific, reliably established, and unscientific facts. Scientific facts are usually registered by measuring instruments or devices and are carefully checked by criteria of reliability, validity, statistical significance, etc. Unscientific facts are the result of random or disorganized observation.

Scientific theory as the most generalized form of scientific knowledge is an internally consistent system of knowledge about a part of reality.

The **main functions of theory** in scientific knowledge: *explanation and prediction* of phenomena and events.

Derived function is a theoretical generalization of facts and phenomena.

So we should distinguish between different types of scientific generalizations.

Empirical generalization is the combination of objects and phenomena on empirical, observable or measurable grounds.

Theoretical generalization is the unification of objects and phenomena from the standpoint of a single way of explaining their structural, functional or genetic characteristics.

The **methodology has two global functions**:

1. as a theoretical and worldview (ideological) basis of scientific knowledge,

2. as a teaching on the method of cognition

Consequently, the main role of the methodology of science is to determine what a given science should investigate, that is, its subject, and in the development of methods for obtaining new knowledge typical for a given science.

3. The level of specific scientific methodology. The level of General scientific principles and forms of research. The level of research methods and techniques.

The content of the specific scientific level of the methodology is the analysis of problems associated with the specifics of scientific research in each specific area of scientific knowledge. This specificity is determined by a number of factors: the subject of research of this science; the main methods of obtaining knowledge about the subject of research; ways of constructing explanations (theories).

When studying mental phenomena, it becomes necessary to build a specific scientific methodology. This is due to the fact that the subject of psychology is

complex and until now there is no complete agreement between the scientific directions of the study of mental phenomena, even in what the psyche is.

The level of General scientific principles and forms of research.

Depending on what the scientist's cognitive activity is aimed at – to analyze single, unique phenomena or to generalize phenomena based on the establishment of laws, – there are two approaches to the scientific cognition of phenomena:

• the focus of cognition on observation and description of unique, non-recurring events and phenomena, as well as on the registration of their features. This is the ideographic approach that, for example, the historiographic sciences are based on. This approach can be used in psychology to describe unique phenomena or the results of non-recurring clinical observations;

• orientation of cognition to generalization and search for patterns that govern many events and phenomena in the world. This is the nomothetic approach that is most characteristic of the natural sciences.

When implementing the nomothetic approach in the study of phenomena, a number of general scientific methods of scientific cognition are distinguished (inductive, hypothetical-deductive, axiomatic).

At the level of research methodology and technique, the tools used in a specific research are considered.

The category "methodology" is closely related to a number of concepts that reveal the content of the cognitive process. The closest of these concepts are "method" and "technique". Methodology in relation to them is a broader and more general concept.

The method is a concretization of the methodology. It fixes the possible range of objects and subjects of research, the main procedural requirements for working with the object, the expected results. A method is a way to achieve results in the knowledge of the object and subject of study.

As a rule, the specific conditions for applying the method introduce additional restrictions that require methodological clarifications. These refinements lead to the transformation of a method into a specific technique. In psychological techniques, specific particular tasks are indicated that can be solved using this method; contains a detailed description of research procedures, stimulus material, requirements for a specific contingent of subjects, external (physical) and internal (psychological) research conditions; the rules for registering answers and, in general, fixing the research process, the data processing algorithm, and sometimes recommendations for the interpretation of the results are given.

Thus, the technique can be characterized as a set of information about the appropriate application of the method in specific conditions.

An important component of the technique, which mainly determines its specificity, is the procedure. A procedure is a certain sequence of certain actions.

Questions and tasks
  1. Define the concept of "methodology".
  2. What components the structure of methodological knowledge consists of?
  3. What the methodology of psychology is?
  4. Define the concept "philosophy".
  5. Define the concept "worldview".
  6. Describe the functions of methodology.
  7. What the ideographic approach in research is?
  8. What the nomothetic approach in research is?

Task 1. Make lecture notes on the studied material.

Task 2. Read the article written by Joaquim Quintino-Aires about nowadays psychological science and practice (http://psychologyinrussia.com/volumes/pdf/2016_4/psychology_2016_4_2.pdf) Write a summary of the article.

Lecture 2. Features of formation and development of the subject of methodology of scientific psychological research.

Lecture plan:
1. Psychological research: a retrospective analysis.
2. Categories of psychology: activity, reflection, personality, consciousness and communication.
3. Basic principles of psychology: activity, development, determinism, consistency.

Basic concepts: *psychological research, activity, reflection, personality, consciousness, communication, principles of psychology, development, determinism, consistency.*

1. Psychological research: a retrospective analysis.
Retrospective (evaluative) analysis is the analysis of data focused on the changes over time, starting from the current point in time to some past period of time.

Retrospective research – observational, nonexperimental research that tries to explain the present in terms of past events; that is, research that starts with the present and follows participants backward in time. For example, an investigator may select a group of individuals who exhibit a particular problematic symptom and then study them to determine if they had been exposed to a risk factor of interest.

Retrospective analysis is a sequential study of the past in order to establish the cause of events. The method of collecting retrospective information is the

study of sources: literary, statistical, program-methodological and generalization of these materials. It can be used in the form of a questionnaire, conversation, interview. The essence of retrospective analysis is to rely on a higher stage of development in order to understand and evaluate the previous one. A sequential assessment of the stages of development in reverse chronological order is made. Each previous stage can be understood not only due to its connection with other stages, but by using the knowledge of the subsequent and higher stage of development in general. It helps to understand the previous steps as well.

A kind of retrospective analysis in psychology is the study of the history of its development. Highlighting separate stages and assessing the contribution of scientists to its development gives a more complete understanding of the current state of psychology.

For example, to look at the relationship between serial killers and child abuse, the investigators will identify convicted serial killers, and find out which of them have a past history of being abused as children.

A major advantage of a retrospective study is that it allows the study of rare phenomena without having to use a very large sample size, and without having to spend a long time following the subjects to find out the outcome. If you were to do a Prospective Study on serial killers and child abuse, you would have to recruit an extrremly large sample of abused children and follow them for several years in order to find out which ones turn out to become serial killers. That would be very expensive and time-consuming.

A disadvantage of this kind of study is that it is prone to bias. In this example, it is possible for the researchers to tend to select participants who already have a known history of being abused. Also, the accuracy of the gathered data is only as good as the accuracy of available records.

2. Categories of psychology: activity, reflection, personality. Consciousness and communication.

Activity. Activity is the process of a person's active attitude to reality, whereby a person achieves his goals, satisfies various needs and assimilates social experience. In the structure of activity, goals and motives are distinguished. The goal of activity is *what* a person acts for. The motive is *why* a person acts. Each person has his own incentive reasons, motives to act.

In the content of the activity, we can distinguish such psychological components as cognitive, emotional and volitional.

Activity is motivated by need, i.e. the state of need in certain conditions of the normal functioning of the individual. The need is presented as a feeling of discomfort, dissatisfaction, tension and it is realized through a search activity.

Reflection. The category of reflection is a fundamental philosophical concept. This is a universal property of matter, which consists in reproducing the signs, properties and relationships of the reflected object.

There are different levels of reflection. Therefore, an important task for psychology is to investigate the features and functions of various levels of reflection, to trace the transitions from its simpler levels and forms to more complex ones.

Mental phenomena represent various forms and levels of subjective reflection of objective reality. A person perceives them as images of objects and phenomena of the surrounding world.

Personality. Personality is a special systemic mental formation of the individual, determined by the process of a person's life in society. Another definition of personality is – the individual as a subject of social relations and conscious activity. It is necessary to distinguish between the concepts of "human" and "personality".

Human is, on the one hand, a biological being. On the other hand, human is a social being. This is its most important feature.

Personality is a narrower concept than a human. Personality is a human who is taken as a social being.

There are 3 most important psychological characteristics of a personality:

1) the stability of personality traits.

2) the unity of the personality as the interdependence of mental processes, mental states and mental properties of the individual. The personality is a single whole.

3) the activity of the individual, which is reflected in the diverse and multifaceted activities aimed at changing, transforming the world around him and himself.

Consciousness. Consciousness is the highest level of reflection of reality and mental activity of a person as a social being. The peculiarity of this activity lies in the fact that the reflection of reality is presented in the form of sensitive and mental images. It anticipates the practical actions of a person and gives them a purposeful character. Consciousness includes a person's attitude both to the world around and to himself (self-consciousness).

The most important function of consciousness is the mental construction of actions and the anticipation of their consequences, control and management of personality behavior.

Communication. Communication is a multifaceted process of establishing and developing contacts between people, that is caused by the motives of joint activities. Communication includes communicative, interactive and perceptual aspects.

The communicative aspect of communication is associated with the exchange of information between people.

The interactive aspect of communication includes the construction of a general interaction strategy. In communication, people have the goal of influencing another person.

The perceptual aspect of communication involves the perception of each other by the communicants. Participants in communication strive to understand feelings, motives of behavior, attitude towards significant objects.

3. Basic principles of psychology: activity, development, determinism, consistency.

The principle of **activity.** Personality is an active subject of the transformation of the world. A person, as a subject of activity, can relate to it in different ways – he can be a simple performer of it, or he can be its initiator, an active participant.

Development principle. The psyche, human consciousness develops in activity and in interaction with the world, communication with other people. Therefore, the study of mental phenomena requires disclosure of the conditions and causes of its occurrence, as well as the factors and forms of its change. Development can be progressive (improvement, complication) or regressive (simplification, degradation). It can be evolutionary (gradual, quantitative) or revolutionary (abrupt, qualitative).

The principle of **determinism** (establishment of cause-and-effect relationships). The principle of determinism implies that all mental phenomena are connected according to the law of cause-and-effect relationships. Everything that happens in our psyche has a reason. This cause can be identified and investigated. The development of the psyche is explained and directed by a specific goal. Psychological determinism also proceeds from the fact that the environment is not just a condition, a zone of human habitation, but a culture that carries the most important knowledge and experiences that largely change the process of personality formation.

The principle of **consistency**. The principle of consistency describes and explains the main types of communication between different sides of the psyche, mental spheres. It assumes that individual mental phenomena are internally interconnected, form an integrity and thereby acquire new properties.

In psychology, we can talk about systems of different levels:
- the psyche as an integral system,
- the motivational system of the individual,
- the memory system, etc.

Each of them, on the one hand, is part of a more complex system and, on the other hand, itself consists of simpler systems. The higher levels of the system determine the functioning of the lower ones. Therefore, it is always necessary to take into account the systemic, holistic nature of the psyche.

Questions and tasks
1. What a retrospective analysis is?
2. Give a description of the category "activity".
3. Give a description of the category "reflection".

4.   Give a description of the category "personality".
5.   Give a description of the category "consciousness".
6.   Give a description of the category "communication".
7.   Describe main principles in psychology.
Task 1. Make lecture notes on the studied material.
Task 2. Group discussion of the article about modern state of methodology of psychology (Appendix A).

Lecture 3. Philosophical
and methodological foundations of psychology.

Lecture plan:
1. Science as a social institution. Methodological bases of theoretical-cognitive and subject-practical activity.
2. Actual problems of philosophical and psychological knowledge.
3. A comprehensive, systematic approach to the study of human – environment interaction.

Basic concepts: *science, psychic reflection, methodology, objective reflection, subjective reflection, systems approach*

1. Science as a social institution. Methodological bases of theoretical-cognitive and subject-practical activity.

Science is a special sphere and form of human activity, that obtains knowledge about the world: nature, society, culture, man. Science is one of the forms of knowing the world. New knowledge is the result of this research.

Reber, 1995 identifies three meanings of science:

1) it is a knowledge obtained as a result of the systematic application of the scientific method.

2) it is an area of research or a branch of a discipline formed as a result of the application of basic principles and general laws.

3) it is a system of methods and procedures to study natural phenomena.

The subject of scientific psychology is defined as psychological knowledge, which is obtained by scientific methods.

The difference between science and other forms of knowledge.

Science learns the world as it really is, that is, it obtains objective knowledge about the world. Unlike everyday knowledge, science relies on reliably established and generalized facts. Unlike art, scientific knowledge is based on general (unified) laws. Any scientist can get the same result if the

research conditions are met. Unlike religion, science relies on verified, empirically established data.

Reflective nature of methodological knowledge.

Methodology is a special form of reflection, self-awareness of science.

Types and forms of reflection of scientific knowledge:

1) objective reflection is one of the types and even methods of cognition, the main feature is the focus on knowledge itself, on the process of it's obtaining.

2) subjective reflection – self-observation as self-knowledge.

Man (and humanity) relies on various forms of cognitive activity in cognition of the surrounding world. Conditionally, we can distinguish four main sources of knowledge, on which a person relies to varying degrees, orienting himself in the surrounding world and learning about it.

Everyday, naive cognition: acquired in everyday forms of interactions with the objective world and other people mainly by inductive means, often based on isolated, unreported facts obtained in individual life experience; based on subjective statistics of coincidences or on a limited number of observed events; knowledge is incomplete and not systematized, insufficiently reflective and conscious; knowledge is uncritically borrowed based on direct pragmatic or emotional-value preferences.

Religious-mystical cognition, often has a hypothetical-deductive character, can be based on a system of interrelated postulates and have the appearance of sufficient validity and systematization; is based on faith, appeals to faith; is based on "revelation" – a direct given to individual "chosen" personalities; is fundamentally not subject to empirical verification.

Emotional-axiological cognition: based on the experience of the emotional experiences of the subject and emotional-evaluative relations to the surrounding reality; the results are subjective and cannot be recorded unambiguously, but can be expressed in objective works of art; assumes the ambiguity of interpretations of events and phenomena from the standpoint of emotional generalizations and value relations.

Scientific cognition: it is based on carefully organized and planned methods of obtaining knowledge, assumes constant verification of the knowledge obtained by universal practice and experiment. The purpose of scientific knowledge is the description, explanation and prediction of events and phenomena in the surrounding world on the basis of discovered laws. The results of scientific knowledge can be broadcast as unambiguously as possible and, when used, ensure that different people receive the same results.

** As a rule, there are three levels of methodological analysis of scientific research and the results obtained - scientific knowledge: general philosophical, general scientific and specifically scientific.

The **philosophical** level of methodology is determined by the philosophical positions that the scientist takes in relation to the phenomena being studied.

The general scientific level of methodological orientation provides justification for the criteria according to which the organization of research and the results obtained are recognized as scientific and relatively correct for a given level of cognitive development.

The concrete scientific level of methodology provides guidance in the organization of scientific activity and in the analysis of scientific knowledge within each specific science.

2. Actual problems of philosophical and psychological knowledge.

The main actual problem of philosophical and psychological knowledge is the problem of the relationship between subjectivity and objectivity of knowledge.

Any person uses his mental and physiological capabilities to gain knowledge about the world. His knowledge is his subjective idea of the information he receives. A person receives information in the process of contact with the object of study. Another source (person, book, film) can provide information about the object.

That is, between the subject and the object of knowledge there is always a psyche. The psyche determines the individuality of the perception of an object by different subjects.

Psychic reflection provides the subject with a suitable knowledge of reality, that is the basis of his happy existence in this world. The completeness and adequacy of this knowledge depends on the degree of development of the psyche (both in evolutionary terms and in terms of individual development). The higher the degree of development, the higher the level of adequacy, completeness and systemic reflection.

J.R. Royce & W.W. Rozeboom about problems in the psycho-philosophy of knowledge said the following:

In the first place, the main ingredients of epistemology's subject matter – cognitive acts and their constituents—are psychological entities pure and simple, albeit abstract ones. To acknowledge this is no more to confound normative statements about these entities with descriptive ones than acknowledging developmental psychology to be an empirical science is to confuse the actual behavior of your children with the deportment you wish they would display. One pattern of behavior does not become less a psychological attribute than another merely through being the more praiseworthy of the two, and neither do the prescriptive/validational aspects of a theory of knowledge diminish the psychological nature of what this is a theory about. As I hope to illustrate below, there are probably few significant problems of epistemology where philosophical progress is not seriously impeded by our lack of technically detailed understanding of the psychological mechanisms involved.

Secondly, although is and ought can always be distinguished in reference to any specific instance of reasoning, this does not preclude the very real

possibility that how one should reason in a given case can in turn be adjudicated only in terms of higher-level descriptive principles. It could be, for example, that the psychology and philosophy of knowledge are like two lines of a fugue, each running through the same tonal sequence but forever out of phase. Although the actual interplay between normative and descriptive issues here greatly exceeds the reach of this simple analogy, anyone who presumes that the two classes of questions can be cleanly separated in the large just can't have thought very deeply about the logic of justifying one's beliefs.

Finally, even if there were no other bond between them, normative and descriptive theories of knowledge find common cause and mutual indispensability in practical concerns for belief management. For whenever our de facto habits of thought are found significantly wanting by accepted standards of sound reason, bringing the former into congruence with the latter is a job wherein the psychological engineer seeks to realize the normative epistemologist's specifications. Admittedly, philosophers and psychologists have never to my knowledge officially joined forces to pursue such a practical objective, but the source of this separation does little credit to either party: Psychological science hasn't begun to learn enough about the detailed workings of cognitive mechanisms to spin off engineering enhancements of human rationality, while traditional philosophy of knowledge can lecture schoolboys on forms of the syllogism but has little if any guidance to offer in more advanced problems where mature intellects are genuinely in need of epistemic advice. Even so, it is of some importance to recognize that a body of literature and practice in advanced epistemic engineering does in fact exist, albeit not usually characterized in quite these terms. This is the material on scientific methodology developed by the various natural sciences and their dilettante city cousin, philosophy of science. When as psychologists we set out to study knowledge processes in others, we should not lose sight of the fact that we already have an extensive theory of knowledge embedded in the research customs of our discipline, and that when we seek to improve our research designs, our methods of statistical analysis, the operational solidity and inferential interpretability of our data, etc., we are working the frontiers of epistemology not with the armchair dis- involvement of an academician but with an existential engagement in its real-life consequences. For psychologists of knowledge, the de facto methodology of the natural sciences provides a body of empirical data incomparably more saturated with real cognitive issues than anything researched to date. And any philosopher who proclaims the irrelevance of descriptive to normative theories of knowledge without first investigating whether technical science may not extensively exploit epistemic practices which have scarcely been recognized, much less thoughtfully evaluated, by extant philosophy of knowledge is living in the closed world of an arrogant fantasy (J.R. Royce & W.W. Rozeboom, 1972).

3. A comprehensive, systematic approach to the study of human – environment interaction.

The systematic approach is a methodological direction in the study of reality, considering any of its fragments as a system.

The most important impact in the creation of a systematic approach was made by the Austro-American scientist L. Bertalanffy (1901-1972).

The system is some kind of integrity that interacts with the environment and consists of many elements. The elements of the system are in some relations and connections among themselves.

The organization of these connections between elements is called a structure.

An element is the smallest part of a system that preserves its properties within the given system. The properties of elements are determined by their position in the structure. But the properties of the system are not reduced to the sum of the properties of the elements. The system as a whole, synthesizes the properties of parts and elements, as a result it acquires the properties of a higher level of organization.

Any system can be viewed, on the one hand, as a combination of simpler (smaller) subsystems with their own properties and functions, and on the other hand, as a subsystem of more complex (large) systems.

A systematic approach in psychology allows to identify the commonality of psychological phenomena with other phenomena of reality. It gives a possibility to enrich psychology with ideas, facts, methods of other sciences and, conversely, the pervasion of psychological data into other areas of knowledge. The systematic approach allows to integrate and systematize psychological knowledge. It allows eliminating redundancy in the accumulated information, reducing the volume and increasing the clarity of descriptions. It helps to see gaps in knowledge about specific objects, to detect their incompleteness, to determine the tasks of further research, and sometimes to predict the properties of objects, information about which is missing, by extrapolating and interpolating the available information.

Currently, most scientific researches are carried out with the systems approach.

Questions and tasks
1. What a science is?
2. Describe the difference between science and other forms of knowledge.
3. What are the types and forms of reflection of scientific knowledge?
4. What is the main actual problem of philosophical and psychological knowledge?
5. Give a description of the systematic approach.

Task 1. Make lecture notes on the studied material.

Task 2. Read the article about "Six challenges to theoretical and philosophical psychology" (Shimon Edelman, Department of Psychology, Cornell University, Ithaca, NY, USA) (Appendix A).

Task 3. Compare opinions of J.R. Royce & W.W. Rozeboom and of Shimon Edelman.

Lecture 4. Psychological theory and its specifics.

Lecture plan:
1. The concept of psychology.
2. Subject of psychological science. Psychological research.
3. Specifics of the object, goals, and means. The problem of method as a way of cognition of reality.

Basic concepts: *psychology, psyche, object of research, subject of research, goal of psychological science, main tasks of psychology.*

1. The concept of psychology.

Psychology is the science that of the mind and behavior (according to the American Psychological Association). Psychology is a multifaceted discipline and includes many sub-fields of study.

The concept **"psychology",** comes from the Greek words – *psyche* (soul, psyche) and *logos* (knowledge, understanding, study) – and has several meanings.

So, in the first, literal, meaning, psychology is "the science of the soul", it is knowledge about the psyche, the science that studies it. Psychology is the science of the psyche and the laws of its manifestation and development.

The psyche is a property of highly organized living matter, a subjective reflection of the objective world, necessary for a person (or an animal) to actively work in it and control own behavior.

In the second, most common sense, the word "psychology" refers to the psychic, "mental" life itself, thus highlighting a special reality (psychological). If the properties of the psyche, consciousness, mental processes usually characterize a person in general, then the characteristics of psychology – a specific individual. Psychology manifests itself as a set of typical for a person (or groups of people) ways of behavior, communication, knowledge of the world around, beliefs and preferences, character traits. So, emphasizing the differences between people of one age or another, professional, gender, they say, for example, about the psychology of a schoolchild, student, worker and scientist, female psychology, etc.

2. Subject of psychological science. Psychological research.

The object of research of any science is a certain fragment of reality, to which the research actions of this science are directed.

The subject of research is any part (side, manifestation) of the object. The subject indicates the aspect of the study of a given object, determines the specifics of science.

In psychology, in the most general terms, the objects of research are the carriers of the psyche: man and animals. A person is the main object of psychological science, but due to the fact that any person is part of various groups of people (from a family and a friendly collective to human society as a whole), then various social formations (groups, collectives, society). Since it is impossible to study the human psyche outside of its evolution, animals are also the object of research, and accordingly, their psyche is an integral part of the subject of psychology. Then the refined definition will look like this. The objects of study of psychology are humans, various social groups of people, animals and their communities.

The subject of psychology is the psyche as a whole or its separate aspects and manifestations of any object of psychological study, that is, the psyche of man (in individual and social relations) and animals. In terms of form, these can be mental processes, states, properties, constructs, both individually and in different aggregates, which give reason to consider a person at different levels of his mental organization. These are the levels of the individual, subject, personality, individuality, and in some cases even the universe. Then each of these levels of a person becomes the subject of a specific psychological study. Thus, any psychic reality inherent in a given object can become the subject of psychology research. However, sometimes there are other opinions. In particular, that the psyche is not an object, but an object of psychology. With an increase in the level of concreteness in the study of the selected fragment of reality (which corresponds to a decrease in the level of its organization), an object as a set of subsystems can be split into parts, and then the former object can act as an actual object.

Thus, the problem of clearly defining the object and subject of psychology is still relevant. Nevertheless, it is possible to accept *a person as the main object of psychology*, and *the human psyche* as the main *subject of psychology*.

3. Specifics of the object, goals, and means. The problem of method as a way of cognition of reality.

The object of research is the area of directly observable reality, for which stable and necessary connections between its individual components are identified and fixed in the system of scientific abstractions. The process of constructing an object is impossible without the appearance of a special cognitive task, a scientific problem.

Research means are fundamental concepts of science, with the help of which the object of research is dismembered and the problem, principles and methods of studying the object, means of obtaining empirical data, including technical means, are formulated.

The concept of the subject of research is not opposed to an object (since one and the same object can be included in the subject of several sciences), but the empirical area – a set of scientific facts and descriptions, from which the object of research follows.

The *main goal of psychological science* is cognition of the mental in all its manifestations – from elementary mental acts (sensations) to the personality and its behavior.

As usual, the goal is achieved through the solution of separate **tasks**.

In the most generalized form, the main **tasks** of psychology can be named as follows.

1. Identification and description of specific facts of mental life.
2. Explanation of mental facts by revealing psychological patterns.
3. Elucidation of the mechanisms of manifestation of psychological laws.

The scientific method is a set of special rules and procedures aimed at obtaining empirical knowledge about the world – as it exists and to the extent that scientists are able to study and understand it.

The originality of empirical psychology is largely determined by its method.

Three levels of understanding of the scientific method.

1) the scientific method is a way of obtaining objective knowledge about reality, a way of understanding and obtaining truth about it

2) the scientific method is a system of thinking procedures and instrumental actions of the researcher, which lead him to obtain true knowledge and protect him from erroneous conclusions.

3) the scientific method is a method of cognition in which at least three basic features are distinguished: 1) procedures and techniques for obtaining facts, 2) methods of constructing and substantiating empirical research, 3) rules for constructing empirical concepts.

Questions and tasks
1.   Give the concept of psychology.
2.   What is psyche?
3.   Describe the meaning of the object of psychology.
4.   What is the main object of psychology?
5.   Describe meaning of the subject of psychology.
6.   What is the main subject of psychology?
7.   Can different sciences have one object of research?

Task 1. Make lecture notes on the studied material.
Task 2. Write down 10-15 concepts of the course in the dictionary.

Lecture 5. Development of the main traditions and schools in psychology and their features.

Lecture plan:

1. Development of psychology in the behavioral direction. Formation of the cognitive tradition in psychology. Formation of the field theory direction in psychology.

2. Psychoanalytic tradition in psychology. Interactionist tradition in psychology.

3. Existential-phenomenological tradition in psychology. Gender approach in psychology.

Basic concepts: *behavioral approach, cognitive tradition, the field theory in psychology, psychoanalytic tradition, interactionist tradition, existential-phenomenological tradition, gender approach in psychology.*

1. Development of psychology in the behavioral direction. Formation of the cognitive tradition in psychology. Formation of the field theory direction in psychology.

Behaviorism is a scientific approach in American psychology of the 20th century. It denies consciousness as an object of scientific knowledge and reduces the psyche to various forms of behavior. It assumes that behavior is either a reflex antecedent stimuli evoked by the pairing of certain in the environment, or a consequence of that individual's history, including especially reinforcement and punishment contingencies.

Behaviorism emerged in the early 1900s as a reaction to depth psychology and other traditional forms of psychology, which often had difficulty making predictions that could be tested experimentally, but derived from earlier research in the late nineteenth century.

During the first half of the twentieth century, John B. Watson devised methodological behaviorism, which rejected introspective methods and sought to understand behavior by only measuring observable behaviors and events. It was not until the 1930s that B.F. Skinner suggested that covert behavior–including cognition and emotions–subjects to the same controlling variables as observable behavior. While Watson and I. Pavlov investigated how (conditioned) neutral stimuli elicit reflexes in respondent conditioning, Skinner assessed the reinforcement histories of the discriminative (antecedent) stimuli that emits behavior; the technique became known as operant conditioning.

The most prominent representatives of behaviorism are: E. Thorndike, K. Hull, B. Skinner, D. Mead, A. Bandura.

Formation of cognitive tradition in psychology

In the 60s, cognitive psychology arose in the United States, which was initially directed against the behaviorist exclusion of the mental component from the analysis of behavior, against the ignorance of cognitive processes and cognitive development. Cognitive psychology grew out of research by neo-behaviourists. It developed an approach based on the concept of the human as a system engaged in active searches for information and processing information. **The main area of research** in cognitive psychology is cognitive processes – memory, psychological aspects of language and speech, perception, problem solving, thinking, attention, imagination and cognitive development. The cognitive approach has extended to the study of the emotional and motivational sphere of the individual, as well as to social psychology.

The most prominent representatives of cognitive psychology are J. Piaget, J. Kelly, P. Janet, W. Nyser, J. Bruner, D. Norman, L. Festinger, F. Haider, P. Lydnsay, G. Simon.

Formation of the direction of field theory in psychology

The first important manifestation of the influence of physical field theory in psychology was an approach known as Gestalt psychology, which was founded by three German psychologists – Max Wertheimer, Wolfgang Koehler and Kurt Koffka, they founded it in the years immediately preceding the First World War. The main principle of Gestalt psychology is that behavior is determined by the psychophysical field in which it is rooted. Field theory was created by Kurt Lewin, who believed that in order to understand behavior, it is necessary to take into account the situation as a whole, that is, the gestalt situation. Even if the individual whose behavior is being studied recalls the past or projects himself into the future, he does so this very minute, i.e. present. Therefore, only those aspects of the past (or future) are important that are woven into the fabric of the momentary situation.

The environment surrounds a person, but a person is never a part of it, and the environment is not a part of a person. Meanwhile, there are permeable psychological boundaries due to which changes in the environment can cause changes in a person and vice versa.

2. Psychoanalytic tradition in psychology. Interactionist tradition in psychology.

Psychoanalytic tradition in psychology

The main objects of attention in this theory were 1) the conflict between the unconscious and consciousness, as well as 2) the unconscious motivation of behavior.

According to Freud, an individual's mind has a fixed amount of desire towards sexual activity, often called as libido. No two individuals would have similar desire for sexual activity and the same would vary as per an individual's situation, circumstance at the moment.

An adult personality generally has three determinants: **Id, Ego and Super Ego**

The outcome of the combination of all the three determinants shapes an adult personality. Freud believed than an individual's personality has three parts and thus is often called as tripartite personality.

- Id
- Ego
- SuperEgo

Id – refers to irrational needs and demands, something which has nothing to do with the reality of the situation. Freud believed that Individuals seek immediate pleasure in order to satisfy their biological and physiological needs without taking into consideration the reality.Id gives immediate pleasure to individuals and is often irrational.

Ego – Ego develops when individuals start interacting with people around. Ego helps in the fulfillment of id, taking into consideration the reality of the situation.

Super Ego – Super ego is often the third stage which includes the moral constraints imposed on an individual by his parents or family.

Initial premises:

1) a human's psyche functions on three levels: consciousness, preconsciousness, unconsciousness;

2) a human's personality includes three psychological structures (Id, Ego and Super Ego), they are "authorized representatives" of the three levels of the psyche;

3) the formation of a psyche occurs within the sexual sphere through overcoming the Oedipus complex (in boys) and the Electra complex (in girls).

This theory is based on the fact that only a small part of a person's activity is conditioned by consciousness and "the mind is not the master in its own house." The rational, conscious sphere of the psyche reflects only the superficial part of the personality (the "tip of the iceberg"). The main area of the psyche ("the underwater part of the iceberg") is the sphere of the unconscious "filled with biologically determined instincts. Instincts determine the personality of a human, his behavior. This conditioning is manifested in the fact that instincts stimulate the release of energy accumulated in the psyche (libido – attraction, desire). Z. Freud's appeal to the sphere of the unconscious made it possible to identify many roots of mental disorders, to create appropriate psychotherapeutic procedures for their elimination (the method of free associations, analysis of dreams and reservations, the method of establishing close personal relationships between the therapist and the patient).

Interactionist approach

An approach that emphasizes the importance of both individual differences and situational factors in explaining behavior.

The main directions of research of intergroup relations: M. Sheriff's work on the study of group interaction as a source of intergroup relations (cooperation

or hostility), A. Tajfel's study of the relationship between intergroup relations and awareness of belonging to his group.

A major stage in the development of the psychology of small groups dates back to the period of the 30s – early 40s and is marked by a number of experimental studies carried out in laboratory and field conditions, and the first serious attempts to develop a theory of group behavior. Small groups in industry are being studied, the sociometric direction of group research is being formed.

Interactive approaches have been actualized for applied problems of communicative management since the 60s – 70s of the XX century. In the concept of symbolic interactionism (T. Mead, G. Shibutani, etc.), as well as in the theories of roles (E. Goffman and others) and reference groups (R. Merton, G. Hyman, T. Newcomb, M. Sheriff and etc.) we are talking about the interaction of people.

3. Existential-phenomenological tradition in psychology. Gender approach in psychology.

Existential-phenomenological tradition in psychology

Phenomenological approach of personality's theory preaches the idea that it is the subjective ability to comprehend reality plays a key role in determining the external behavior of a person. Only subjective experience is the key to understanding of behavior. Another important thesis is the idea that people are able to determine their own destiny. Self-determination is an essential part of a person. It leads to the conclusion that people are responsible for what they are. The last thesis is that people are inherently kind and have a desire for perfection: the realization of internal capabilities and personal potential.

The concepts and provisions that characterize the phenomenological approach to personality are most clearly expressed in the works of Karl Rogers. K. Rogers opposed B. Skinner's assertion that behavior can be explained by a person's response to an objective stimulus situation. K. Rogers also rejected the theory of S. Freud that past experience is the primary factor underlying personality. And finally, K. Rogers emphasized that behavior can be understood only if psychologist addresses the whole person.

The existential-humanistic approach to psychology and therapy originated in the writings of Rollo May, who is generally considered the father of American existential psychology. May was influenced by existential psychologists in Europe as well as existential philosophers; however, the approach he developed also had some unique features. One of the unique aspects of May's approach to existential psychology was the integration of ideas from humanistic psychology, which was developing concurrently in the United States. However, the label "existential-humanistic" did not come from May, but rather from James F. T. Bugental. Along with May, Bugental became one of the important influential figures in the development of existential psychology and therapy in the United States.

Gender approach

The psychology of gender relations is an applied branch of psychology that studies the patterns of differentiation, as well as the hierarchy of relations in the field of inter-sex interaction. The main research methodology in the psychology of gender relations is the gender approach, which proclaims the idea of equality regardless of gender.

The first studies of gender stereotypes began in the 50s. In the 60s and 70s, studies of gender stereotypes became very popular. There are three groups of gender stereotypes:

1) concerns the consolidation of family and professional roles in accordance with gender;

2) is associated with differences in the content of labor;

3) these are stereotypes of masculinity-femininity. These stereotypes are highly resilient.

Many researchers are of the opinion that an integral (holistic) personality is characterized not by masculinity or femininity, but by androgyny, i.e. integration of the female emotional and expressive style with the male instrumental style of activity.

At the present stage, the concepts of three androgyny are actively developing:

1) the idea of co-presence, psychological balance of polytypical characteristics is reflected;

2) the idea of merging. Androgyne is, in a psychological sense, both a man and a woman at the same time;

3) relies on the key concepts of cognitive psychology, in particular on the category of "gender cognitive schema". Proponents of this concept try to distinguish between polytypical individuals "schematics" and androgynes ("aschematics").

Questions and tasks
1. Describe a development of psychology in the behavioral direction.
2. Describe a formation of the cognitive tradition in psychology.
3. What are the main features of the field theory direction in psychology?
4. Who is the founder of the psychoanalytic tradition in psychology.
5. What three parts of individual's personality Freud distinguished?
6. Describe main features of the interactionist approach.
7. Describe main features of the existential-phenomenological tradition in psychology.
8. Give a description of the gender approach.

Task 1. Make lecture notes on the studied material.

Task 2. Make a scheme of different approaches in psychology (choose 3 more interesting for you, explain your choice).

MODULE 2 SCIENTIFIC RESEARCH IN PSYCHOLOGY

Lecture 6. Methods of psychology.

Lecture plan:
1. Classification of methods by G. Piryov.
2. S. L. Rubinstein's ideas about methods of psychological research.
3. Views of M. S. Rogovin and G. V. Zalevsky on the classification of methods of psychological research.
4. Classification of psychological research methods by B. G. Ananyev.

Basic concepts: *method, observation, experiment, modeling, standardized and projective test methods, questionnaires, sociometry, interviews and conversation.*

Method (in a broad sense) is a way of cognition, based on a certain set of previously obtained general knowledge.

Method (in a narrow sense of the word) is the realization of a certain cognitive attitude towards the being studied reality that suggests the use of appropriate research techniques and procedures.

1. Classification of methods by G. Piryov.

The classification of any objects according to some criterion helps us not to get confused in a huge set of these objects. The choice of the criterion is primarily determined by the general scientific position of the author of the classification.

Piryov traditionally divides methods into group of empirical methods, which he subdivides into two separate classes – observation and experiment; on a group of theoretical methods, consisting of two classes – modeling and "methods of psychological characteristics"; that can be called a class of methods for interpreting the results of empirical research; into a separate group Piryov combined two classes of special methods – specific for psychology and non-specific for psychology, borrowed from other areas of research.

Piryov identified several independent methods.

I. Observation
1. Objective observation
   1) direct observation, implying individual observation of the subject in the process of his life activity or of a group of people;
   2) Piryov singled out objective-clinical observation (widely used in psychiatry) as a special form of objective observation;

3) mediated observation, which includes various questionnaire techniques. The most recognized method of indirect observation is the analysis of the products of human activity.

2. Subjective observation (self-observation):

1) direct self-observation – a person's verbal report;

2) mediated self-observation – the study of diaries, letters, photographs of a given person, his memories, etc.

II. Experiment

1. Laboratory experiment:

1) classical – methods of reactions' recording (voluntary and involuntary, simple and choice reactions), psychophysical methods, etc .;

2) psychometrics (test method – individual and group standardized measurements of general and special endowments, analyticity and synthetics and other personality traits; psychological scaling – non-standardized measurements of individual mental processes).

2. Natural experiment.

It is carried out in the conditions of work, study, play, etc. Become into the arsenal of psychology after the works of A.F. Lazursky, who developed the techniques of natural experiment.

3. Psychological and pedagogical experiment.

It appeared in the 30s on the basis of the method of natural experiment. Designed to improve the education of schoolchildren. Kinds:

1) ascertaining;

2) formative.

III. Modeling. When we talk about modeling, they mean either physical, or mathematical, or simulation, or some other methods of modeling. Cybernetic modeling is popular among psychologists, especially among engineering psychologists and representatives of cognitive psychology.

IV. Psychological characteristics. This is a synthetic research method that relies on the results of research and experiment (characteristics of thinking, memory, temperament, assessment and self-assessment of objective reality and oneself, speech, emotional status, etc.).

V. Auxiliary methods (non-specific for psychology).

1. Physiological, pharmacological, biochemical, etc.

2. Mathematical.

3. Graphic.

VI. Special methods (specific to psychology).

1. Genetic method (ontological and phylogenetic aspects).

2. Comparative research method (for example, research on the development of a child and a baby chimpanzee).

3. Pathopsychological method (helps to investigate pathological deviations of the psyche from the accepted norm).

2. S. L. Rubinstein's ideas about methods of psychological research.

S. L. Rubinstein's ideas about methods of psychological research. Psychology, like every science, uses a whole system of various private methods, or techniques. The main research methods in psychology, as in a number of other sciences, are **observation and experiment.** Each of these general methods of scientific research appears in psychology in different and more or less specific forms; there are different types of observation and experiment.

Observation in psychology can be self-observation or external observation, usually in contrast to self-observation called objective. External, so-called objective, observation can, in turn, be subdivided into direct and mediated.

Likewise, there are various forms or types of *experiment*. A kind of experiment is the so-called natural experiment, which is a form intermediate between experiment and simple observation.

In addition to these basic methods, which in psychology receive a specific expression in accordance with the characteristics of its subject, psychology uses a number of intermediate and auxiliary methods.

The genetic method in psychology, i.e. the use of the study of the development of the psyche as a means for disclosing general psychological laws is not compared with observation and experiment in the same row and is not opposed to them, but it is necessary to rely on them and build on them, since the establishment of genetic data, in turn, is based on observation or experiment ... Each psychological discipline has its own methodology, which is different from the methodology of others. And each individual problem has its own special methodology designed to study it. In connection with the definition of the subject of psychology, only the main types of methods and the general principles of their construction are outlined here.

3. Views of M.S. Rogovin and G.V. Zalevsky on the classification of methods of psychological research.

M.S. Rogovin and G.V. Zalevsky distinguish 6 basic psychological research methods.

1. The hermeneutic method is an undivided state of science, subject and object are not opposed, mental operation and method of science are identical.

2. Biographical method – the selection of a holistic object of knowledge in the science of the psyche.

3. Observation – the differentiation of the object and the subject of knowledge.

4. Self-observation – transformation of a subject into an object on the basis of previous differentiation.

5. Clinical method – the task of transition from externally observed to internal mechanisms comes to the fore.

6. Experiment as an active opposition of the subject of cognition to the object, which takes into account the role of the subject in the process of cognition.

The relationship between the subject and the object of research is established *as the main criterion* for classification. The clinical method somewhat falls out of this pattern, which in terms of the relationship between the subject and the object of research – the differentiation of the subject and the object – refers to observation, but, apparently, the clinical method is quite specific both in the object of research and in special training required by the subject of the research. so that the authors of this classification separate the clinical method into a separate class.

4. Classification of psychological research methods by B.G. Ananyev.

B.G. Ananyev considered the methods of psychology interconnected with the stages of scientific research in general, therefore his classification can be considered as a classification of these stages. According to Ananyev, the psychologist uses different groups of methods at different stages of research.

1. **Organizational group**:
   comparative,
   longitudinal,
   complex (assumes both comparative and longitudinal in the complex).

2. A group of **empirical methods** of obtaining data:
   1) observation and self-observation;
   2) experimental methods – field experiment (specially organized experiment, close to natural), laboratory experiment, natural experiment, formative or psychological-pedagogical, experiment;
   3) psychodiagnostic methods (standardized and projective test methods, questionnaires, sociometry, interviews and conversation);
   4) techniques for analyzing processes and products of activity – praximetric methods (timing, cyclography, professiography, assessment of products and work performed);
   5) modeling method;
   6) biographical method.

The choice of a particular empirical method depends on which organizational method was chosen by the researcher.

3. **Methods and techniques for processing empirical data**:
   1) methods of mathematical statistics;
   2) the qualitative characteristics of the material obtained.

4. **Interpretive methods**, used for explaining the results of the study; represent different variants of genetic and structural methods:
   1) the genetic method interprets all processed research material in the characteristics of development, highlighting phases, stages, critical

moments in the process of formation of mental functions, formations or personality traits;

2) the structural method interprets the material in the characteristics of systems and the types of connections between them, forming a personality, a social group.

Ananyev's classification is unique in its kind. It considers the entire process of organizing and conducting psychological research – from posing a problem to solving it.

Questions and tasks
1.   Give the definition of method in broad and narrow sense.
2.   Describe different classifications of methods in psychology.
Task 1. Make lecture notes on the studied material.
Task 2. Make a comparative analysis of different classifications of methods in psychology.
Task 3. Watch the film about S. Milgram's experiment (https://yandex.by/video/preview/?text=stanley%20milgram%20experiment%20 movie&path=wizard&parentreqid=16119078897575331577451641581046506700107productionapphostvlawebyp209&wiz_type=vital&filmId=13424787028280472819). Group discussion of the experiment.

Lecture 7. Qualitative methods of psychological research.

Lecture plan:
1. In-depth interviews, focus groups.
2. Qualitative content analysis.
3. Extended creative groups.
4. Phenomenological interviews; projective methods.

Basic concepts: *in-depth interviews, focus groups, qualitative content analysis, extended creative groups, phenomenological interviews, projective methods.*

1. In-depth interviews, focus groups.
Qualitative research in psychology is understood as "any type of research in which data are obtained in non-statistical or non-quantitative ways."

The goal of a qualitative study is to reveal the structure of a particular experience and the meaning that a certain object, situation, event has for a person.

Qualitative research, in contrast to quantitative research, is associated with a much more open nature of research (especially at the initial stage) and

involves the formulation of the problem and initial hypotheses only in a very general form with their subsequent concretization in the research process.

Focus groups and in-depth interviews are direct methods of collecting information, open group discussions with the target audience. A focused interview can be not only a group interview, but also an individual one – in this case, it is called an in-depth interview.

In-depth interview is an informal face-to-face conversation in which the interviewer helps the person begin to speak freely and express his own feelings. The interviewer, at the same time, tries to adhere to the planned interview plan and strives to develop it, in accordance with the respondent's answers. The technology of qualitative interviews differs depending on the objectives of the research. In total, a qualitative interview may require from 1.5-2 to 8-12 hours of work with one respondent (up to 200 pages of text information).

In-depth interviews are the series of individual interviews on a given topic.

A specially trained highly qualified interviewer conducts the interview. He is well versed in the topic, knows the technique and rules of psychological conducting a conversation. Each interview lasts 15-30 minutes and is accompanied by the active participation of the respondent – he lays out cards, draws, writes, etc. In-depth interviews, in contrast to structured ones (used in a quantitative survey) allow a deeper penetration into the psychology of the respondent and a better understanding of his point of view, behavior, attitudes, stereotypes, etc.

Focus group. The group focuses on discussing specific topics. The questions are not structured, but the conversation is based on the discussion of topics of interest to the customer. A moderator is required.

The principle of "direct funnel" is used – the questions are asked from broader ones, prompting to talk, to speak spontaneously, to more specific ones, concerning the details of the problem under study.

The audience gathers respondents for whom this product is designed (age, status, gender), and polls them about what they like about it, what not, what they would like to change. During the interview, the respondents give subjective opinions about the product, service and other objects of research. An important condition is the correct selection of respondents.

It allows to evaluate the effectiveness of any advertising product at any stage of its creation: from the emergence of an advertising idea to a specific advertising product. The main area of application is marketing research.

2. Qualitative content analysis.

Content analysis is a method of identifying and evaluating certain text characteristics from information carriers (video recordings, television and radio broadcasts, interviews, answers to open-ended questions, etc.). Certain content elements are analyzed: behavior; the explicit and hidden meaning of messages; non-verbal interaction, etc.

Content analysis has several stages:

1) the units of analysis (words or themes) are determined.

2) the frequency and volume of references to these units in certain conditions are determined;

3) the psychological characteristics of the communicator (author of the text) and the audience (according to it's reaction) are revealed;

4) an abstract model of its content emerges from a large textual material: what was mentioned and how often, with what subtext, how much airtime was devoted to it and at what time; the number of lines and the place of the page in the newspaper, etc.

Usually, for the convenience of conducting research using this method, a special table is drawn up (observation and registration card, matrix or other accounting document), consisting of a listing of the semantic units found in the analyzed text. After studying the sources of information and filling in the observation and registration cards, the formed array of cards is sorted, cards are numbered. The next step is the coding of the categories and units of analysis; quantitative processing of empirical data, namely, the total calculation of the share of each observation unit in the total data set. This is followed by the interpretation of the results and the preparation of conclusions based on the results of content analysis.

3. Extended creative groups.

Expanded creative groups. For successful work of extended creative groups (ECG) it is necessary to take into account the phenomena and patterns of group dynamics: intrapersonal, interpersonal and environmental variables that affect the "comfort zones" of the participants; leadership in the group; group compatibility and group cohesion.

Referring to qualitative methods of social and psychological research, the extended creative group is a group semi-standardized interview, held in the form of a group discussion and aimed at obtaining from its participants "subjective information" about how they perceive various types of practical activity or products of this activity. The main methodological technique is group discussion.

Group discussion is at the core of virtually all group methods used by social psychologists. It allows to clarify your personal positions of its participants, to reveal the variety of approaches, points of view on any issue. Group discussion develops the ability to improvise, to act outside the bounds of the envisaged, overcoming self-distrust and adherence to old patterns.

The main efforts of the presenter (moderator) are aimed at creating and maintaining a general group atmosphere of trust, openness, and involvement in the group process.

Each discussion in socio-psychological terms goes through three stages:

1) orientation in the problem and in each other,

2) evaluation, comparison and even confrontation of ideas;

3) consolidation of opinions.

The successful implementation and effectiveness of the data obtained depends on the degree of comfort of the participants in the open transmission of their thoughts and feelings.

4. Phenomenological interviews; projective methods.

Phenomenological interview. The principles of phenomenological analysis can be used to explore the respondent's actual feelings about past experience. The researcher helps the respondent to become aware of his experience. At first he realizes that the experience is based on feelings. Then, he understands what these feelings are, where they are directed and what significance they have in the context of his experience. These principles in phenomenological interviews are manifested as follows:

- phenomena are described as they are to a person and how they are perceived;

- the content of the experience is taken from everyday life;

- subjectivity is recognized in a particular situation;

- we look at the phenomenon, reducing our knowledge, attitudes, generally accepted norms, trying to concentrate on what is constant, what changes depending on the situation.

The method of phenomenological analysis in the aspect of psychological methods can be considered as a method of analyzing a person's experience of feelings accompanying a particular phenomenon.

The work of the phenomenological researcher is to direct the consciousness of the individual in the necessary direction (for example, by asking certain questions). Allow the resulting content, find clear and understandable verbal expression and explanation.

Phenomenological analysis procedure.

Phenomenological research consists of a phenomenological interview and a phenomenological analysis of the data obtained, and part of the analysis is carried out in the presence of and with the respondent and partly without him.

Projective methods. The projective method is one of the methods of personality research. It is based on the identification of projections in experimental data with subsequent interpretation. The projective method is characterized by the creation of an experimental situation that allows a plurality of possible interpretations when perceived by the subjects. Each such interpretation is based on a unique system of personal meanings and characteristics of the subject's cognitive style.

The action of projective techniques is based on the projection mechanism. This mechanism was first discovered by Z. Freud. It is described as the process of attributing one's feelings, desires, which are unacceptable to a person, to an object outside. The projection is of an unconscious nature and performs a protective function, softening the contradictions between the true (unconscious)

aspirations of a person and social norms, assessments, and conscious beliefs. The term "projective" was introduced by L.K. Frank in 1939 to denote a number of techniques already known by that time. He developed a classification of projective techniques, which, with some additions, is still used today.

Projective techniques are divided into:

◄Constitutional, where it is necessary to structure the proposed incentives, giving them meaning (Rorschach test)

◄Interpretive – interpretation, explanation of a certain situation, events (test of frustration by S. Rosenzweig, Thematic Apperception Test (TAT));

◄Constructive – creation of a single whole from disparate decorated parts (Peace test);

◄ Katharsical (katharsis – purification) – the expression of a certain idea, feeling through the game, organized in special conditions (psychodrama, projective play);

◄Additive (augmentation techniques), where it is required to continue the story, sentence, etc. ("Incomplete sentences", Jung's associative test);

◄Analysis of the products of creativity, mainly drawing ("House. Tree. Man", "Non-existent animal");

◄Study of expression – analysis of handwriting, communication features (Mira-n-Lopez technique);

◄Impressive, based on the preference of some stimuli over others as the most desirable (Luscher test).

Projective techniques do not describe any particular personality function. Projective tests are used for psychodiagnostics of psychological characteristics that are hidden or not recognized by the subjects.

Questions and tasks
1. Give the concept of qualitative research in psychology.
2. What groups of projective methods do you know? Find the examples of techniques for each group of projective methods.

Task 1. Make lecture notes on the studied material.

Task 2. Make a comparative analysis of different qualitative methods in psychology.

Task 3. Write down basic concepts of the lecture in the dictionary.

Lecture 8. The problem of validity and reliability of research results.

Lecture plan:
1. The concept of validity, types of validity. Construct validity.
2. Internal validity.
3. External validity.

Basic concepts: *validity, construct validity, internal validity, external validity.*

1. The concept of validity, types of validity. Construct validity.

The validity of psychological research. Campbell and Stanley introduced the *concept of validity* into widespread use in psychology in the 1960s. It is used for research findings that accurately represent the characteristics of the phenomenon, that must be described or explained. **Validity is** the consistency of the research results with what was studied in it. As Elena Dzuki notes, in any scientific research, the researcher must be able to find answers to at least the following questions:

1) is there a relationship between the two variables;

2) whether this dependence is causal;

3) whether this dependence is significant;

4) do the measurement and observation procedures really apply to the investigated constructs;

5) can the causal relationships, identified during the study, be generalized.

Finding answers to these questions is extremely important, first of all, for the reason that the researcher often does not think about whether the methods and procedures, chosen by him, correspond to the peculiarities of the studied phenomenon, whether it is possible to speak about their adequacy from the results obtained, etc.

We can talk about several types of validity:

internal and external validity;

validity of statistical findings and research procedures;

construct and ecological validity.

Construct validity. The connection between theory and reality is reflected in the adequacy of the theory of reality and the predictability of its predictions. Campbell introduced the concept of construct validity. **Construct validity** expresses the adequacy of the method for interpreting the experimental data of the theory. Construct validity, according to Campbell, characterizes the correctness of designating (interpreting) a cause and an experimental effect using abstract terms from ordinary language or formal theory. Construct validity is determined by the correctness of the use of the terms of a particular theory when interpreting research data. Campbell notes that establishing construct validity requires alternative interpretations of the relationship between cause and effect with concepts taken from a particular theory.

2. Internal validity.

Internal validity is the degree to which research results allow to do causal conclusions about the influence of one variable on another. Most socio-psychological research is aimed at finding out how the social systems, in which an individual is included, affect his social behavior and decision-making. A

study has internal validity if it is proven that there is a causal relationship between the variables under study.

The reasons for the decrease in the internal validity of the study:

1) Mixing of variables. If in the course of the experiment any random factor interacts with the variable under study and this interaction cannot be measured separately from the interaction of the dependent and independent variables.

2) Changes associated with the subjects. When checking dependent variables, changes that occurred between two moments of observation can be caused not by independent variables, but by changes that have occurred with the subjects themselves (for example, personal events, changes in certain personality traits, etc.).

3) Impact of preliminary testing. Pre-testing induces changes in the subjects that can significantly affect the results of the study.

4) Changing the skills of the researcher. For example, a researcher, after some time, may become more experienced in observations and, therefore, interpret the behavior of the subjects in a different way. In addition, factors such as fatigue can affect the researcher, which can lead to errors in experiments.

5) Regression to the mean. This phenomenon occurs when individuals are repeatedly tested on the same variable. It was found that if the subjects received results in the first test that were close in magnitude to the highest indicators of the scale, then during the second experiment their results decrease and become closer to the average indicators, while the subjects who received results in the first test close to the lowest, when re-measured, they achieve better performance.

6) Elimination. During the course of the study, some subjects leave the group. If the dropout rate is uneven in the treatment and control group, this can lead to misinterpretation of the results.

3. External validity.

External validity is understood as the possibility of generalizing the research results obtained on the experimental sample to the entire general population. External validity is of particular importance at the empirical stage of scientific development. It is sometimes interpreted as a characteristic of an experiment that determines the possibility of transferring (generalizing) the results to different times, places, conditions and groups of people (or animals).

Such possibility arises from two reasons:

1) correspondence of the experiment's conditions to its " prototypic" life situation (the "representativeness" of the experiment);

2) the typicality of the " prototypic " situation itself for reality ("representativeness" of the situation). The situation chosen for simulation in the experiment may be rare for the group of subjects participating in the experiment.

R. Gottsdanker argues that external validity affects the reliability of conclusions. To achieve high external validity, it is necessary that the levels of

additional experimental variables correspond to their levels in reality. An experiment that does not have external validity is considered invalid. Achieving full external validity is impossible in principle, therefore any "pure" analytical study is outwardly invalid. At the same time, it is necessary to take into account, as much as possible, the influence of additional variables on the experimental effect.

External validity is highly dependent on the way how the sample is drawn.

There are three main types of sampling:

1. Random sampling. For example, the results of a study of a group of adolescents, formed in a random way, will be valid with only some degree of probability for all adolescents of a given nationality.

2. Heterogeneous sample. In accordance with the objectives of the study, various groups of the population are distinguished. On these groups, the results of the study are supposed to be obtained. Then a random sample is analyzed to ensure that it contains a sufficient number of representatives from each group.

3. Sample of a typical case. For example, the definition of a typical average representative of a certain category is given. For the study, a sample, consisting of individuals who satisfy this definition, is used.

Questions and tasks
1. Give the concept of validity.
2. What internal validity is?
3. What external validity is?
Task 1. Make lecture notes on the studied material.
Task 2. Describe the reasons for the decrease in the internal validity.

Lecture 9. The ecological validity.

Lecture plan:
1. The ecological validity.
2. Requirements for establishing ecological validity.
3. Methods for establishing ecological validity.

Basic concepts: *validity, ecological validity.*

1. The ecological validity.
Ecological validity is the degree to which the experimental conditions correspond to the investigated reality. For example, in the famous experiment of Kurt Lewin on the study of types of leadership, attitudes in groups of adolescents did not correspond much to relations in the state, therefore, ecological validity was violated. A big problem of laboratory experiments is the

possibility of generalizing their results to real life circumstances, naturally occurring in the conditions of everyday human practice.

A study has high ecological validity if its results are confirmed in field studies.

Accusations against many studies of low ecological validity are often related to the impossibility of replicating them in real life circumstances. Carlsmith proposed to designate highly ecological research by the term "mundane realism", experimental, ie. conducted in artificial conditions, using the term "experimental realism". Examples of this kind of research are the original laboratory study of conformity by Solomon Asch and the famous experiments of Stanley Milgram, which caused a storm of discussions on the problem of psychological ethics. It is necessary to note that in certain situations people behave in real conditions in the same way as in laboratory conditions (for example, newborns or airplane passengers), while in other circumstances they demonstrate pronounced differences.

In the same way, some people remain constant in real life and in the laboratory, while the behavior of others is very different. For all the critical attitude to the ecological validity of classical socio-psychological experiments, their main merit is objectivity, which ensures both unambiguous interpretations and reproducibility, i.e. confirmability. Confirmability is directly related to statistical validity.

In the modern literature, two problems are discussed in this regard:

1) what is the ecological validity of a laboratory experiment, i.e. the possibility of extending the obtained data to "real life";

2) what is the danger of data bias due to a special selection of subjects.

As a more fundamental methodological question, raise the question of whether real social relations, which constitute the most important context in socio-psychological research, are not lost in a laboratory experiment.

There are different points of view regarding the first of the posed problems. Many authors agree with the mentioned limitation of laboratory experiments, others believe that it is not necessary to require ecological validity from a laboratory experiment, that its results should certainly not be transferred to "real life", i.e. that in the experiment it is only necessary to check individual provisions of the theory, and for the analysis of real situations it is necessary to interpret these provisions of the theory. Still others, such as D. Campbell, offer a special class of "quasi-experiments" in social psychology. Their difference is the implementation of experiments not according to a complete scheme dictated by the logic of scientific research, but in a kind of "truncated" form. The main idea is that in socio-psychological research in general and in experimental research in particular, an organic combination of quantitative and qualitative analysis is necessary.

2. Requirements for establishing ecological validity.

Ecological validity is ascertained when research results are confirmed in the field study. The problem of laboratory research is the adequate transferability of it's results to the conditions of real life, to the daily activities of the individual. But this, also, is not the final confirmation of the results, as ecologically valid, because generalization is also necessary to other conditions and circumstances. Research is often accused of having a low ecological validity criterion due to the impossibility of replicating the research in real life.

Compensation for the limitations of the laboratory experiment (especially the low "ecological" validity) was achieved through a natural experiment, when the simulated experimental situation is introduced into the context of the natural conditions of the subjects' life.

In the socio-psychological study of joint activity and group behavior, it seems appropriate to use different groups of methods: observation, survey methods, instrumental techniques, structurally united within the framework of the methodological block of the study.

A combination of laboratory and natural experiment should become the form of organization of research of joint activity and group behavior. The main method of organizing research should be a natural experiment that allows you to study real groups in real conditions.

3. Methods for establishing ecological validity.

Empirical expert validation involves the work of experts with subjects.

It is necessary for experts to provide standard conditions for observing the subjects. But it is not always possible such a standardized observation to organize. Even if serious efforts to organize observation of the behavior of the subjects in any artificial laboratory situation are made, such observation will still be significantly inferior in informative value to field observation – in natural conditions.

Therefore, in practice, they often resort to assessments of a special type – to subjective assessments. Such assessments are given to the subject by people from his circle who have experience of real communication with him. The psychologist needs to draw up detailed instructions for the evaluators. The best conditions are the presence of a group of subjects who communicate closely with each other. They can simultaneously be both subjects in relation to behavior in the experiment and evaluators in relation to each other.

In order for the group personality assessment to be a source of truly valid information, the assessors must consistently assess the subjects. If there is no consistency in the estimates of different assessors, then this means that:
- either the evaluated property did not appear in the object of evaluation,
- or the evaluators interpreted the instruction differently.

To measure the consistency, a table with grades should be drawn up. In that table the sums along the lines give the total scores received by each subject for all evaluators. By calculating pairwise correlations between different columns of this table, we can get the coefficients of consistency for individual pairs of evaluators. Cronbach's reliability factor α can serve as a measure of the evaluators' consistency. The empirical value of the validity coefficient is calculated as the correlation between two series of values: experimental results and the total score of the expert assessment.

Questions and tasks
1. Give the concept of ecological validity.
2. Name the requirements for establishing ecological validity.
3. What methods for establishing ecological validity do you know?

Task 1. Make lecture notes on the studied material.

Task 2. Find the examples of experiments with low and high ecological validity.

Lecture 10. Methods of text analysis.

Lecture plan:
1. A general idea about the methods of text analysis.
2. Types of text analysis methods.
3. The hermeneutic approach, the content analysis.

Basic concepts: *intent analysis, content analysis, narrative analysis, expert assessment of the text.*

1. A general idea about the methods of text analysis.

Intent analysis is a method that allows researcher to reconstruct the author's intentions from his text (intentions are a subjective focus on a certain object). Expert revelation and identification of speech intentions provides an opportunity to find them in texts of different topics and orientations, i.e. characterize them qualitatively. The research task of psychologists who use the method of intent analysis consists in expert assessment of the nature of intentions, their fuzziness and lack of clarity of understanding.

Content analysis is the most prevalent method with many variations in different techniques. It allows researcher to carry out a qualitative and quantitative analysis of the content of text with the aim of subsequent interpretation of the identified numerical patterns.

Narrative analysis is a method of summarizing experience by correlating the sequence of words in a sentence with the sequence of real events. Allows researcher to quantify the text. Unlike content analysis, which can be applied to

any text, narrative analysis focuses on specific texts containing a story. The advantage of narrative analysis, in comparison with cluster analysis, is that the assessment is carried out according to specific categories (Subject, Action, Object), and not according to an arbitrarily categories, chosen by researcher based on his tasks. The class of narrative texts includes a variety of stories from a variety of artistic and historical texts (myths, legends, chronicles, etc.) to newspaper articles describing the events that took place. Narrative analysis is most often used in conjunction with other methods of text analysis.

Expert assessment of the text – this group of methods includes various expertise of the text, the classification of which, according to A.A. Leontyev, can be represented as follows:

a) authorship expertise aimed at identifying the author of the text or identifying categorical features of a likely author: gender, age, nationality, place of birth, place of long-term residence, level of education, etc.;

b) an examination aimed at establishing the temporal characteristics of the author of the text (emotional state, etc.);

c) an examination aimed at establishing certain conditions for the creation of the investigated text (also examination of the authenticity of the recordings during the interview);

d) an examination aimed at establishing deliberate distortion of the information expressed in the text;

e) an examination aimed at establishing certain signs (insult, appeal, etc.). In addition to the above methods, there are a number of other methods of text analysis, primarily philological.

2. Types of text analysis methods.

Most often, text analysis methods are classified according to *their functions and the object of analysis*.

1. *According to their functions* a group of methods is defined. It includes methods:

1) oriented on importing text and working with it;

2) text research (work at the grammatical, syntactic level, carry out a variety of searches in the text, highlight keywords, indices, etc.);

3) focused on semantic analysis, creating categorization schemes, dictionaries, coding;

4) allowing the export of analysis data (for example, the text itself or the coding scheme, or the dictionary used, etc.).

2. *By the object of analysis:*

1) methods "language oriented" (analysis of linguistic units):
- linguistic methods;
- methods of working with data (information search, word lists, concordance, indices, etc.).

2) methods, "content-oriented" or content analysis:

• qualitative methods that allow you to search for patterns and differences in the text, to analyze the entire text (some techniques allow you to analyze audio and video information). In this group of methods for conducting a qualitative (meaningful) study of the text, quantitative data can also be used to organize qualitative (meaningful) information. An important difference is the predominant use of topics, concepts, processes, contexts as units of analysis. In this case, the volume of the analyzed text may be limited;

• methods for analyzing events based on text data;

• quantitative techniques that allow statistical testing of hypotheses are focused on the study of large volumes of text:

a) categorical systems have built-in or custom dictionaries, on the basis of which the search in the text is carried out. In this case, categories can be both thematic and semantic. Some methods have limitations on the size of the units of analysis;

b) non-categorical systems based on the simultaneous occurrence of words, lines, concepts allow you to build a variety of graphs;

c) systems for coding answers to questions of unfinished sentences. Not intended for analyzing large amounts of text. Designed for the analysis of sufficiently homogeneous text and are limited in the size of the text analysis units.

3. Hermeneutic approach, content analysis.

The theoretical substantiation of the application of the *hermeneutic method* in psychology is associated with the name of V. Dilthey.

But the origins of this method are in the methods of interpreting texts, the basis of which is the inclusion of textual information in a broader context of knowledge with interpretation, i.e. "translation", with the addition of additional meanings fixed in the text (searches for the "second", hidden meaning).

The area of applicability of hermeneutics in psychological research. Its adequate object is creativity (psychological analysis of the unique products of creative activity), the unique mental individuality of a person and his unique and irreproducible life path.

The area of application of the hermeneutic method is unique, holistic, "intelligent" objects.

There are various modifications of the psychological hermeneutic method, the main ones – the biographical method, analysis of the results (products) of activity, the psychoanalytic method.

Content analysis. Content analysis has an undeniable advantage in all the variety of text analysis methods, modifications and varieties of which allow solving a wide variety of research problems.

Content analysis is a method of qualitative and quantitative analysis of the content of documents in order to identify or measure various facts and trends reflected in these documents. The peculiarity of content analysis is that it examines documents in their social context.

Can be used as

• the main research method (for example, content analysis of the text in the study of the political orientation of the newspaper),

• parallel, i.e. in combination with other methods (for example, in the study of the effectiveness of the functioning of the mass media),

• auxiliary or control (for example, when classifying answers to open-ended questionnaires).

Most often, the objects of research of content analysis are messages from the press, radio, television, minutes of meetings, letters, orders, instructions, etc., as well as data from free interviews and open-ended questionnaires.

The calculation procedure for quantitative content analysis is generally similar to the standard methods of classification according to selected groupings of ranking and measurement of association.

There are also simpler ways to measure. The specific weight of a particular category can be calculated using the formula K = the number of analysis units that fix this category / total number of analysis units.

Questions and tasks
1. What methods of text analysis do you know?
2. What kinds of expert assessment of the text do you know?
Task 1. Make lecture notes on the studied material.
Task 2. Find the examples of using of text analysis methods.

CREDIT QUESTIONS

1. The concept of methodology.
2. Functions and main problems of consideration of the methodology.
3. Methodological, theoretical and methodological problems of psychology.
4. Correlation of the concepts of "methodology", "science", "philosophy" and "worldview".
5. The structure of modern scientific knowledge (scientific facts and theories).
6. The structure of modern scientific knowledge (components of scientific theory).
7. The structure of modern scientific knowledge (naive (everyday) and scientific theories).
8. Philosophical level of methodology.
9. General scientific level of methodology.
10. Specific scientific level of methodology.
11. Correlation of the concepts "methodology", "method", "technique".
12. The concept of a method in the narrow and broad sense.
13. Psychological research. General idea, types.
14. Retrospective analysis of psychological research.
15. Category of reflection in psychology.
16. Category of consciousness in psychology.
17. Category of activity in psychology.
18. Category of communication in psychology.
19. Personality's category in psychology.
20. Basic principles of psychology.
21. Science as a social institution.
22. Methodological foundations of theoretical-cognitive and subject-practical activities.
23. Actual problems of philosophical and psychological knowledge.
24. An integrated, systematic approach to the study of human interaction with the environment.
25. Object and subject in psychological research.
26. The subject of psychological science.
27. Specificity of the subject, object, means, goals and objectives.
28. The problem of the method as a way of cognition of reality.
29. Development of psychology in a behavioral direction.
30. Formation of the cognitive tradition in psychology.
31. Formation of the direction of field theory in psychology.
32. Psychoanalytic tradition in psychology.
33. Existential-phenomenological tradition in psychology.
34. Interactionist tradition in psychology.

35. Gender approach in psychology.

36. Classification of methods by G. Piryov.

37. S.L. Rubinstein's ideas about methods of psychological research.

38. Critical analysis and classification of psychological research methods by B.G. Ananyev.

39. Views of M.S. Rogovin and G. V. Zalevsky on the classification of methods of psychological research.

40. The essence, advantages and disadvantages of using the comparative method in psychological research.

41. Essence, advantages and disadvantages of using the longitudinal method.

42. Features of the use of an integrated method in psychological research.

43. The concept of observation and its types; observation errors.

44. Comparative analysis of observation method and experiment.

45. Characteristics of the experimental method.

46. Auxiliary empirical methods.

47. Comparative analysis of auxiliary methods of psychology.

48. Methods and techniques of data processing.

49. Qualitative methods in psychology.

50. The essence of interpretation methods.

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APPENDIX

Six challenges to theoretical and philosophical psychology

Shimon Edelman*

*Department of Psychology, Cornell University, Ithaca, NY, USA

The confusion and barrenness of psychology is not to be explained by calling it a "young science." […] For in psychology there are experimental methods and *conceptual confusion*. The existence of the experimental method makes us think we have the means of solving the problems which trouble us; though problems and method pass one another by.

Wittgenstein (1958, p. 232)

Sometimes it pays off to "think."

Pernu (2008, p. 36)

Psychology is not a young science anymore: as the textbooks tell us, it won its independence, from philosophy, a century and a half ago, through the efforts of such luminaries as Gustav Fechner and William James. And yet, if an offhand remark by a long-dead philosopher on psychology's conceptual confusion still touches a raw nerve in some of us psychologists, it is probably because psychology's intellectual roots have been all along, and will likely remain, firmly planted in the philosophy of mind.

Philosophy and psychology may be seen as rivals insofar as each counts the other as a proper part of its subject matter. This stand-off can, however, be resolved in a peaceful and productive manner, if we only realize that psychological science and the philosophy of mind are also natural partners, because these disciplines have joint custody over some of the most daunting – and most exciting – questions that humanity ever dared to contemplate. This partnership is too precious to be treated casually: arguably, the most momentous theoretical advances in psychology are typically motivated by deeply philosophical considerations, and the best thinking in the philosophy of mind is inspired by, and reflects back upon, scientific findings and theories.

An exemplary approach to the relationship between philosophy and psychology is the one advocated by Quine (1969, pp. 126–127):

My position is a naturalistic one; I see philosophy not as *a priori* […] groundwork for science, but as continuous with science. I see philosophy and science as in the same boat – a boat which, to revert to Neurath's figure as I so often do, we can rebuild only at sea while staying afloat in it.[1] There is no external vantage point, no first philosophy.

In the remainder of this brief note, I list some of the challenges that mark the frontiers of theoretical and philosophical psychology and that are motivated both by the lingering echoes of Wittgenstein's criticism and by Quine's positive outlook.[2]

How to Paint the Big Picture

Perhaps the greatest challenge facing any attempt to understand how the mind works is the need to take in massive amounts of data. In physics, the fate of a foundational theory, and hence a certain broad-canvas conception of the universe, may hinge on the outcome of a single experiment.[3] In contrast, in psychology (and in the neurosciences), a vigorous but undiscriminating application of the scientific method can only result in a big picture in the style of Jackson Pollock – unless, on the one hand, proper theoretical tools are brought to bear on all stages of the scientific inquiry and, on the other hand, intellectual discipline that characterizes properly conducted philosophical inquiry is exercised. The present journal, *Frontiers in Theoretical and Philosophical Psychology*, will adopt precisely this two-pronged approach.

Given the mind's complexity and the need for its explanation to span many levels (Marr and Poggio, 1977; Marr, 1982), theorists who study it must develop a sophisticated strategy for dealing with published experimental findings. Which ones should I ignore as insignificant, even if they appear in the best journals? Which ones should I think hard about, even if the theoretical accounts offered by their authors make little sense to me? And which ones should I actively seek out, to fill a gap in my understanding of things?

Interestingly, insofar as these meta-scientific questions have to do with differential *value* that we place on different items of knowledge, they are also philosophical. Hilary Putnam[4] described this situation as follows (Putnam, 2012, p. 47):

I have argued that even when the judgments of reasonableness are left tacit, such judgments are presupposed by scientific inquiry. (Indeed, judgments of *coherence* are essential even at the observational level: we have to decide *which* observations to trust, which scientists to trust – sometimes even which of our *memories* to trust.) … I have argued that my pragmatist teachers were right: "knowledge of facts presupposes knowledge of values."[5]

Truth and Consequences

The realization that values have a place in meta-theoretical discourse in psychology (just as they do in other sciences) gives us license to set our sights considerably higher than merely gathering reliable and ample empirical findings with regard to whatever psychological phenomenon that is under investigation. Psychology should, I believe, position itself so as to be able, with full confidence, to echo a sentiment with which the emeritus MIT professor of

linguistics Morris Halle reportedly used to open his course: "I'm not here to tell you the news; I'm here to tell you the truth."[6]

Can one reasonably hold a theoretical claim in psychology to be true, in the same sense that, say, special relativity is in physics? I think so, and my case in point, which I argued at length elsewhere (Edelman, 2008a,b), is the identification of cognition with a class of computations (e.g., Minsky, 1985; McDermott, 2001). It seems to me also that making such claims – as long as they are empirically sound and theoretically pleasing – is the right thing to do methodologically speaking: we can truly keep abreast of the news only if we keep asking after the truth.

Ideas without Borders

In psychology, unlike physics, truth straddles disciplinary boundaries: crucial information on the strength of which a psychological theory may stand or fall can come from another discipline altogether. For instance, findings from neuroscience can lend support to a broad explanatory framework in psychology, such as Bayesian inference (Lee and Mumford, 2003) or Hebbian learning (Caporale and Dan, 2008). In the same vein, complexity estimates, arrived at by methods of computer science, that show a certain class of algorithms to be intractable, can doom a corresponding family of psychological theories, as in the case of theories of visual perception and learning that ignore issues of dimensionality (Tsotsos, 1990; Edelman, 1993).

Such considerations notwithstanding, psychological theories can be surprisingly resilient (Greenwald, 2012, Table 1). My impression is that this happens because too often theories are stated in a conceptually inadequate language, which in turn stems from glossing over interdisciplinary issues. It seems strange that at this time, decades after the disciplines referred to collectively as cognitive science came to be recognized as interrelated, a call for more interdisciplinarity in psychology should still sound like a challenge. Nevertheless, a challenge it is: what may count for a big picture in psychology is likely to span only a few pieces of the great jigsaw puzzle of how the mind works.

It is important to note that the need for conceptual breadth exists not just in trying to understand how various cognitive tasks are addressed, but also at the more basic level of grasping the nature of the tasks themselves. Thus, neglecting to question the common assumption that the purpose of vision is to reconstruct the geometrical layout of the environment can lead an entire field on a decades-long wild goose chase (Sloman, 1989; Edelman, 2009), which ends with a realization that vision and the rest of cognition (in particular, motor control) are intimately interrelated and must therefore fit within the same overarching psychological theory.

By acknowledging and pondering the importance of interdisciplinarity in theoretical psychology, we can better appreciate the role of philosophy in opening up for us a whole new set of dimensions of conceptual breadth. The contribution of philosophical thinking to psychology will be particularly

effective if such thinking avoids being parochial in its own domain. As one can learn from Scharfstein's (1998) outstanding survey of the history of world philosophy (which unfortunately goes only as far as late eighteenth century), insights into all of the questions of interest to psychologists can be found in philosophical traditions both in the East and in the West. We must, therefore, encourage work that connects those philosophical traditions to one another (e.g., Kalansuriya, 1993) and draws upon Eastern thinking, which is still under-appreciated by Western scientists, in the context of psychological theorizing (e.g., Waldron, 2002; cf. Metzinger, 2003, p. 566).

The final frontier of interdisciplinarity in psychology is the no man's land that separates it from the humanities – "the last bastion of magic" (Kean, 2011). The traditionally strong humanistic undercurrents in philosophy (Putnam, 2012),[7] the growing interest among cognitive psychologists in aesthetics (e.g., Kintsch, 2012) and in literature (Zunshine, 2010), and the emergence of a "third culture" that is equally at home in science and technology and in the humanities (Brockman, 1996; Kelly, 1998) all indicate that a further blurring of the intellectual borders is to be expected, and that it is a good idea to help this process along.

"Nothing in Biology…"

If theoretical thinkers in science, philosophy, and the humanities are all concerned with what we humans (and other animals) are, they should also be interested in understanding how we got to be this way. The short answer to this latter question is, of course, evolution. Given that the mind as we know it is first and foremost a biological phenomenon and that "nothing in biology makes sense except in the light of evolution" (Dobzhansky, 1973), it should not be surprising that rigorous evolutionary thinking has much to contribute to understanding it (for recent overviews, see Jablonka and Lamb, 2007; Pinker, 2010). Specific examples that come to mind have to do with individual learning (Lehmann et al., 2008), comparative neurobiology (Lefebvre et al., 2004), animal culture (Danchin and Wagner, 2010), and language (Chater and Christiansen, 2010; Syal and Finlay, 2010).[8]

Explaining Consciousness

Just as the *sui generis* status of language in cognitive science has given way to a realization that it might be amenable to explanation within the same theoretical framework as the rest of cognition, so did consciousness research return into the fold of psychology after a century-long exile.[9] Although there are now journals in the field of psychology devoted entirely to consciousness research, a little theoretical help here could still go a long way.

The greatest challenge in this domain seems to lie in the project of naturalizing phenomenology (Petitot et al., 1999), which, if successful, will culminate in a resolution of the so-called "hard problem" of consciousness: offering a convincing explanation of qualia, or the phenomenality of experience (Chalmers, 1995). As one may expect, progress in this undertaking can only be

expected through a sustained interdisciplinary effort rooted in philosophy and informed by psychology, neuroscience, mathematics, and computer science (Dennett, 2003; Metzinger, 2003; Rudrauf et al., 2003; Merker, 2007; Yoshimi, 2007; Tononi, 2008; Fekete and Edelman, 2011, 2012).

In this effort, the role of philosophy *qua* the art of argument and persuasion is absolutely critical. A good explanation of phenomenal awareness – one that is both true (in the sense of section Truth and Consequences) and intuitively plausible – is bound to be in some sense reductive, even if it posits phenomenality as an emergent property (Dennett, 1995, p. 195). Specifically, and especially with regard to plausibility, such a reductive explanation would have to include a claim of *identity*, as when the temperature of a gas is identified with the mean kinetic energy of its molecules, or a performance of *Café Müller* by the Pina Bausch ensemble – with the series of bodily configurations and movements of her dancers.

Through the Den of the Metaphysician

If outrageous methodological moves made earlier (such as broaching the possibility that a psychological theory may turn out to be true) have not yet stirred up enough trouble, arguing for an identity claim of the kind that I just mentioned will surely land us square in the middle of what Warren McCulloch (1965) so memorably called "the very den of the metaphysician, strewn with the bones of the former explorers" (among which McCulloch singles out "the femur of Immanuel Kant" and also "his skull, which housed his computing machine").

As McCulloch showed us (always leading by example), we need not be afraid of metaphysics. Not that our attitude toward it matters much: a repudiation of metaphysics is in itself a metaphysical stance (as noted, for instance, by Putnam, 2012, in his discussion of logical positivism and of Wittgenstein's philosophy). Admittedly, by explicitly allowing metaphysics into our discourse (for instance, the metaphysics of embodiment or of reality; Edelman, 2011a,b), we face the challenge of separating idle speculation from serious ideas – but the very same challenge is, of course, the first order of business in any respectable inquiry, be it scientific or philosophical.

This brings us back to our theme: the relationship between science and philosophy and the challenges that they face together, summarized perfectly by Putnam (2012, p. 626):

Q: What is the proper role of philosophy in relation to psychology, artificial intelligence, and the neurosciences?

A: To be a gadfly, of course. Seriously, … the most exciting task of philosophy of science is to combine clarification of the concepts of science with reflection on the implication of scientific theories, both proposed theories and theories that are not considered to be confirmed, for great metaphysical issues.

Sharpening psychology's theoretical tools by focusing on its conceptual foundations in a broad perspective, which includes philosophical considerations

and, indeed, metaphysics, may help us make sense of the deluge of findings that would otherwise sweep us into the barren ocean of mere data.

Acknowledgments

Footnotes

^Here's Otto Neurath's boat metaphor (*Protokollsaetze*, Erkenntnis 3: 204–214, 1932), as explained by Quine (1960, p. 3): "We are like sailors who on the open sea must reconstruct their ship but are never able to start afresh from the bottom. Where a beam is taken away a new one must at once be put there, and for this the rest of the ship is used as support. In this way, by using the old beams and driftwood the ship can be shaped entirely anew, but only by gradual reconstruction."

^For a somewhat different set of challenges to theoretical psychology, which complements those listed here, see Lloyd (2010).

^Here and elsewhere in the present article, I single out physics in the hope of helping to dispel the popular misconception that scientists who are not physicists are prone to physics envy. Given how much more complex psychology and the neurosciences are, compared to physics, cognitive scientists should by rights be proud enough of their own domain and mode of inquiry. Moreover, when a research program in cognition (e.g., "generative" linguistics; Chomsky, 2004) does make a point of looking up to physics, the results tend to be, historically, less than encouraging (see Postal, 2004, for an overview and Bouchard, 2012, for an in-depth critical examination of a central aspect of Chomsky's Minimalist theory).

^Putnam is, to the best of my knowledge, the only living philosopher who has been compared with Aristotle, Leibniz, Kant, Mill, and Russell all at once (De Caro and Macarthur, 2012, p. 1).

^Putnam (2012, p. 47, footnote 18) traces this phrase to William James.

^Quoted by two of Halle's former students, Peter Culicover and Ray Jackendoff, in an epigraph to their book *Simpler Syntax* (Culicover and Jackendoff, 2005).

^As (Putnam, 2012, p. 49, footnote 21) writes, "I do not think that philosophy can be turned into a science because there are areas of philosophy that are essentially humanistic, and I think that turning the humanities into science is a fantasy, and a dangerous fantasy at that. But there are parts of philosophy that overlap with science."

^A rebooted evolutionary psychology is clearly capable of doing much better than generating "just so stories" for which it used to get a bad reputation a decade or so ago.

^The topic of consciousness was, of course, effectively banished from academic psychology between the time of James (1890) and Crick and Koch (1990),

along with most other interesting aspects of the mind, at the hands of behaviorists, some of whom, however, were nevertheless attracted to it (Lashley, 1923).

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*Correspondence: se37@cornell.edu

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