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A.N. Leontev: Activity, consciousness, and personality. First published 1978, Publisher: Prentice-Hall, Transcription/Markup: Nate Schmolze (Marxists.org) 2000.

When I (Manfred Holodynski) talk about the macrostructure of activity and the relations between activity-motive, action-goal, and operation-condition, I refer to this book and the following chapter:

3.5. The General Structure of Activity (Pages 135-141)

The community of the macrostructure of external practical activity and internal activity theoretically allows analyzing it, abstracting it initially from the form in which it occurs.

The idea of analyzing activity as a method of scientific human psychology was proposed, as I have already said, in the early works of L. S. Vygotskii. The concept of tooled (“instrumental”) operations, the concept of purposes, and later the concept of motive (“motivational sphere of consciousness”) were introduced. Years passed, however, before it was possible to describe, in a first approach, the common structure of human activity and individual consciousness. This first description now, after a quarter century, appears in many ways unsatisfactory and too abstract. But it is exactly owing to its abstractness that it can be taken as an initial departure point for further investigation.

Up to this point we were talking about activity in the general collective meaning of that concept. Actually, however, we always must deal with specific activities, each of which answers a definite need of the subject, is directed toward an object of this need, is extinguished as a result of its satisfaction, and is produced again, perhaps in other, altogether changed conditions.

Separate concrete types of activity may differ among themselves according to various characteristics: according to their form, according to the methods of carrying them out, according to their emotional intensity, according to their time and space requirements, according to their physiological mechanisms, etc. **The main thing that distinguishes one activity from another, however, is the difference of their objects. It is exactly the object of an activity that gives it a determined direction. According to the terminology I have proposed, the object of an activity is its true motive.** (Such restricted understanding of motive as that object (material or ideal) that evokes and directs activity toward itself differs from the generally accepted un-derstanding; but this is not the place to enter into polemics on the question.) It is understood that the motive may be either material or ideal, either present in perception or exclusively in the imagination or in thought. The main thing is that behind activity there should always be a need, that it should always answer one need or another.

Thus the concept of activity is necessarily connected with the concept of motive. Activity does not exist without a motive; ‘non-motivated’ activity is not activity without a motive but activity with a subjectively and objectively hidden motive. Basic and “formulating” appear to be the actions that realize separate human activities. We call a process an action if it is subordinated to the representation of the result that must be attained, that is, if it is subordinated to a conscious

purpose. Similarly, just as the concept of motive is related to the concept of activity, the concept of purpose is related to the concept of action.

The appearance of goal-directed processes or actions in activity came about historically as the result of the transition of man to life in society. The activity of participators in common work is evoked by its product, which initially directly answers the need of each of them. The development, however, of even the simplest technical division of work necessarily leads to isolation of, as it were, intermediate partial results, which are achieved by separate participators of collective work activity, but which in themselves cannot satisfy the workers' needs. Their needs are satisfied not by these "intermediate" results but by a share of the product of their collective activity, obtained by each of them through forms of the relationships binding them one to another, which develop in the process of work, that is, social relationships.

It is easy to understand that the "intermediate" result to which the work processes of man are subordinated must also be isolated for him subjectively, in the form of representations. This is also an isolation of the **goal** that according to the expression of Marx, "determines like a law the method and character of his **action**"

Isolating the purposes and formulating actions subordinate to them leads to a seeming splitting of functions that were formerly merged with each other in motive. The function of excitation is, of course, fully preserved in the motive. The function of direction is another matter: The actions that realize activity are aroused by its motive but appear to be directed toward a goal. Let us suppose that the activity of man is aroused by food; this also constitutes its motive. For satisfying the need for food, however, he must carry out actions that are not aimed directly at getting food. For example, the purpose of a given individual may be preparing equipment for fishing; regardless of whether he himself will use the equipment he has prepared in the future or give it to others and obtain part of the total catch, that which aroused his activity and that to which his actions were directed are not identical; their coincidence represents a special personal case, the result of a specific process, which we shall discuss.

Isolation of goal-directed actions constituting of content of concrete activity naturally presents a question about the internal relationships that unites them. As has already been said it is not an additive process. Correspondingly, actions are not special "units" that are included in the structure of activity. Human activity does not exist except in the form of action or a chain of actions. For example, work activity exists in work actions, school activity in school actions, social activity in actions (acts) of society, etc. If the actions that constitute activity are mentally subtracted from it, then absolutely nothing will be left of activity. This can be expressed in another way: When a concrete process is taking place before us, external or internal, then from the point of view of its relation to motive, it appears as human activity, but when it is subordinated to purpose, then it appears as an action or accumulation of a chain of actions.

In addition, activity and action represent genuine and non-coinciding reality. One and the same action may accomplish various activities and may transfer from one activity to another, showing its relative independence in this way. Let us turn again to a clumsy illustration. Let us suppose that I have a goal – to arrive at point N – and I do this. It is understood that the given action may have completely different motives, that is, to realize completely different activities. The opposite is also

obvious, specifically, that one or another motive may be given concrete expression in various purposes and correspondingly may elicit various actions.

In connection with isolating the concept of action as major and “formulating” human activity (its moment), it is necessary to take into consideration that scarcely initiated activity presupposes the achievement of a series of concrete purposes among which some are interconnected by a strict sequence. In other words, activity usually is accomplished by a certain complex of actions subordinated to particular goals that may be isolated from the general goal; under these circumstances, what happens that is characteristic for a higher degree of development is that the role of the general purpose is fulfilled by a perceived motive, which is transformed owing to its being perceived as a motive-goal.

One of the questions that arises from this is the question of goal formation. This is a very important psychological problem. The fact is that only the area of objectively adequate purposes depends on the motive of the activity. This subjective isolation of goals, however (that is, perception of immediate result, the achievement of which realizes a given activity which is capable of satisfying a need objectivized in its motive), presents in itself a special process that has almost never been studied. Under laboratory conditions or in pedagogical experiments we always place before the subject a, so to speak, “ready” goal; for this reason the process of goal formation itself usually escapes investigation. It is only in experiments that coincide in method with the well-known experiments of F. Hoppe that this process is disclosed even if this is a one-sided but adequately distinct presentation from its qualitative dynamic side. It is another matter in real life where goal formation applies as an important instance of one activity or another of the subject. In this respect let us compare the development of the scientific activity of Darwin and Pasteur, for instance. This comparison is instructional not only from the point of view of the existence of great differences in the way that isolation of purposes is subjectively realized but also from the point of view of the psychological content of the process of their isolation.

First of all, in both cases it is very clear that purposes are not contrived, are not posed by the subject arbitrarily. They are given in objective circumstances. Besides, isolation and perception of goals by no means occurs automatically, nor is it an instantaneous act but a relatively long process of approbation of the goals by action and by their objective filing, if this can be expressed in such a way. The individual, justly notes Hegel, “cannot determine the goal of his acting as long as he has not acted. ...”

Another important aspect of the process of goal formation consists in the concretization of the goal, in isolating the conditions of its achievement. But this must be considered separately.

Every purpose, even one like the “reaching of point N,” is objectively accomplished in a certain objective situation. Of course, for the consciousness of the subject, the goal may appear in the abstraction of this situation, but his action cannot be abstracted from it. For this reason, in spite of its intentional aspect (what must be achieved), the action also has its operational aspect (how, by what means this can be achieved), which is determined not by the goal in itself but by the objective-object conditions of its achievement. In other words, the action being carried out is adequate to the task; the task then is a goal assigned in specific circumstances. For this reason the action has a specific quality that “formulates” it specifically, and particularly methods by which it is accomplished. I call the methods for accomplishing actions, operations.

There is frequently no difference between the terms action and operation. In the context of psychological analysis of activity, however, distinguishing between them is absolutely necessary. Actions, as has already been said, are related to goals, operations to conditions. Let us assume that the goal remains the same; conditions in which it is assigned, however, change. Then it is specifically and only the operational content of the action that changes.

In especially visual form, the non coincidence of action and operation appears in actions with tools. Obviously, a tool is a material object in which are crystallized methods and operations, and not actions or goals. For example, a material object may be physically taken apart by means of various tools each of which determines the method of carrying out the given action. Under certain conditions, let us say, an operation of cutting will be more adequate, in others, an operation of sawing; it is assumed here that man knows how to handle the corresponding tools, the knife, the saw, etc. The matter is essentially the same in more complex cases. Let us assume that a man was confronted with the goal of graphically representing some kind of dependences that he had discovered. In order to do this, he must apply one method or another of constructing graphs – he must realize specific operation, and for this he must know how to do them. In this case it makes no difference how or under what circumstances or using which material he learned how to do these operations; something else is important – specifically, that the formulation of the operation proceeds entirely differently from the formulation of the goal, that is, the initiation of action.

Actions and operations have various origins, various dynamics, and various fates. Their genesis lies in the relationships of exchange of activities; every operation, however, is the result of a transformation of action that takes place as a result of its inclusion in another action and its subsequent “technization.” A simpler illustration of this process may be the formation of an operation, the performance of which, for example, requires driving a car. Initially every operation, such as shifting gears, is formed as an action subordinated specifically to this goal and has its own conscious “orientational basis” (P. Ya. Gal’perin). Subsequently this action is included in another action, which has a complex operational composition in the action, for example, changing the speed of the car. Now shifting gears becomes one of the methods of attaining the goal, the operation that effects the change in speed, and shifting gears now ceases to be accomplished as a specific goal-oriented process: Its goal is not isolated. For the consciousness of the driver, shifting gears in normal circumstances is as if it did not exist. He does something else: He moves the car from a place, climbs steep grades, drives the car fast, stops at a given place, etc. Actually this operation may, as is known, be removed entirely from the activity of the driver and be carried out automatically. Generally, the fate of the operation sooner or later becomes the function of the machine.

Nonetheless, an operation does not in any way constitute any kind of “separateness,” in relation to action, just as is the case with action in relation to activity. Even when an operation is carried out by a machine, it still realizes the action of the subject. In a man who solves a problem with a calculator, the action is not interrupted at this extracerebral link; it finds in it its realization just as it does in its other links. Only a “crazy” machine that has escaped from man’s domination can carry out operations that do not realize any kind of goal-directed action of the subject. Thus in the total flow of activity that forms human life, in its higher manifestations mediated by psychic reflection, analysis isolates separate (specific) activities in the first place according to the criterion of motives that elicit them. Then actions are isolated – processes that are subordinated to conscious goals, finally, operations that directly depend on the conditions of attaining concrete goals.

The “units” of human activity also form its macrostructure. The special feature of the analysis that serves to isolate them is that it does so not by means of breaking human activity up into elements but by disclosing its characteristic internal relations. These are the relations that conceal transformations that occur as activity develops. Objects themselves can become stimuli, goals, or tools only in a system of human activity; deprived of connections within this system they lose their existence as stimuli, goals, or tools. For example, a tool considered apart from a goal becomes the same kind of abstraction as an operation considered apart from the action that it realizes.

Investigation of activity requires an analysis specifically of its internal systemic connections. Otherwise we will not be in a position to decide even the simplest problems – such as making a judgment about whether or not we have an action or an operation in a given case. In this respect activity represents a process that is characterized by continuously proceeding transformations. Activity may lose the motive that elicited it, whereupon it is converted into an action realizing perhaps an entirely different relation to the world, a different activity; conversely, an action may turn into an independent stimulating force and may become a separate activity; finally, an action may be transformed into a means of achieving a goal, into an operation capable of realizing various actions.

The mobility of separate “forming” systems of activity is expressed, on the other hand, in the fact that each of them may become a smaller fraction or, conversely, may incorporate in itself units that were formerly relatively independent. Thus, in the course of achieving an isolated general goal there may occur a separation of intermediate goals as a result of which the whole action is divided into a series of separate sequential actions; this is especially characteristic for cases where the action takes place under conditions that inhibit its being carried out by means of already formulated operations. The opposite process consists of consolidating isolated units of activity. This is the case when objectively attained intermediate results flow one into another and the subject loses conscious awareness of them.

In a corresponding manner there is a fractionation or, conversely, a consolidation also of “units” of psychic images: A text copied by the inexperienced hand of a child breaks up in his perception into separate letters and even into their graphic elements; later in this process the units of perception become for him whole words or even sentences.

Before the naked eye the process of fractionation or consolidation of units of activity and psychic reflection – in external observation as well as introspectively – is hardly distinguishable. This process can be investigated only by means of special analysis and objective indicators. Among these indicators is, for example, the so-called ontokinetic nystagmus, the changing cycles of which, as investigations have shown, make it possible to determine the amount of movement “units” entering into the composition of graphic actions. For example, writing words in a foreign language is divided into significantly smaller units than writing ordinary words of the native language. It may be considered that such a separation, distinctly appearing on oculograms, corresponds to the division of action into the operations that make it up, which are evidently simpler and more primary.

Isolating the “units” that form activity has a paramount significance for resolving a series of major problems. One of these problems, on which I have already touched, is the problem of uniting processes of activity that are internal and external in their form. The principle or law of this uniting is that it always takes place precisely along the “seams” of the structure described.

There are separate activities, all links of which appear to be essentially internal; for example, cognitive activity may be such an activity. More commonly, internal activity that serves a cognitive motive is carried out by processes that are essentially external; this may be through either external actions or external motor operations but never through their separate elements. The same thing applies also to external activity: Some of the actions and operations that realize external activity may have an internal form, as mental processes, but again specifically only as actions or as operations, in their integrity and indivisibility. The basis for such a primarily factual position of things lies in the very nature of the processes of interiorization and exteriorization: No type of transformation of separate “splinters” of activity is possible in general since this would mean not a transformation of activity but its destruction.

Separating actions and operations in activity does not exhaust its analysis. Behind activity and regulating its psychic images there is the grandiose physiological work of the brain. This situation in itself does not require proof. The problem is something else: to find those actual relationships that connect the subject’s activity, mediated by the psychic image, and the physiological brain processes.

The relationship of the psychic and the physiological is considered in many psychological works. In connection with the study of higher nervous activity it is theoretically explained in greatest detail by S. L. Rubinshtein, who developed the idea that the physiological and the psychic are one and the same and specifically a reflexive, reflecting activity, but considered from various angles, and that its psychological investigation is a logical continuation of its physiological investigation. Consideration of these positions as well as the positions of other authors leads us away, however, from the intended plane of analysis. For this reason, in recalling some of the stated positions I will limit myself here only to questions about the place of physiological function in the structure of objective activity of man.

I will note that the former subjective-empirical psychology was limited by the conviction of the parallelism of psychic and physiological phenomena. On this basis there arose that strange theory of “psychic shadows” that in any of its variants in essence signified a renunciation of resolving the problem. With the well-known reservation, this refers also to subsequent theoretical attempts to describe the connection of the psychological and the physiological based on ideas of their morphology and interpretation of psychic and physiological structures by means of logical models.

Another alternative is to forgo a direct confrontation between the psychic and the physiological and to continue the analysis of activity on the physiological level. Here, however, it is necessary to overcome the ordinary opposition of psychology and physiology as studying different “things.” Although brain functions and mechanisms constitute an indisputable subject of physiology, it does not follow from this that these functions and mechanisms should remain outside the sphere for psychological investigations, that “what is Caesar’s must be rendered unto Caesar.”

This convenient formula, while it saves from physiological reductionism, leads into a greater sin, the sin of isolating the psyche from the work of the brain. Actual relations connecting psychology and physiology are more like the relations between physiology and biochemistry; progress in physiology necessarily leads to a deeper physiological analysis to the level of biochemical processes; on the other hand, only the development of physiology (in a wider sense, biology) gives rise to those special problematics that make up the specific sphere of biochemistry.

this analogy, which is completely conditional, it may be said that psychophysiological (higher physiological) problematics has its origin in the development of psychological science, that even such fundamental concept for physiology as the concept of the conditional reflex had its origin in “psychic” experiments, as I. P. Pavlov originally called them. Subsequently, as is known, on this subject I. P. Pavlov said that psychology in its phase of approximations explains “the general constructions of psychic formations, and physiology on its part attempts to carry the problem further, to understand these formations as a special interaction of physiological phenomena. Thus the investigation continues not from physiology to psychology but from psychology to physiology. “First of all,” wrote Pavlov, “it is important to understand psychologically and then to translate to physiological language.”

Most important is that the transition from analysis of activity to analysis of its psychophysiological mechanisms reflect real transitions between them. Now we can no longer approach the brain mechanisms (psychophysiological) otherwise than as a product of the development of objective activity. It is necessary to keep in mind that these mechanisms are formed variously in phylogenesis and under conditions of ontogenetic (particularly functional) development and therefore do not always appear in the same way.

Mechanisms made up phylogenetically are ready prerequisites for activity and psychic reflection. For example, the processes of visual perception are as if inscribed in the features of the structure of the visual system of man, but only in a virtual form, as their possibility. The latter, however, does not free psychological investigation of perception from penetrating into these specific features. The fact is that we generally can say nothing about perception without referring to these specific features. The other question is, should we make these morphophysiological features an independent subject of study or should we observe their functioning within the structure of actions and operations? The difference in these approaches is apparent as soon as we compare data of the investigations of, let us say, the duration of visual afterimages and the data of investigations of postexpositional integration of sensory visual elements in solving various perceptive tasks.

The situation is somewhat different when the formation of the brain mechanisms takes place during functional development. Under these conditions the given mechanisms appear as new “mobile physiological organs” (A. A. Ukhtomskii), new “functional systems” (P. K. Anokhin), taking shape, so to speak, before our eyes.

In man the formation of functional systems that are specific to him takes place as a result of his mastering of tools (means) and operations. These systems represent nothing other than exterior motor and mental – for example, logical – operations deposited, materialized in the brain. This is not a simple “calque” of them but rather their physiological allegory. In order to read this allegory, it is necessary to use another language, other units. These units are the brain functions, their ensembles – functional systems.

Including in the investigation activity at the level of the brain functions (psychophysiological) makes it possible to encompass very important realities from which the study of experimental psychology actually began its development. It is true that the first works dedicated, as was then said, to “psychological functions” – sensory, mnemonic, elective, tonic – were theoretically hopeless regardless of the significance of the concrete contribution they made. This was the case because these functions were investigated in isolation from the subject’s objective activity that they realized,

that is, as phenomena of certain faculties – faculties of the spirit or the brain. The essence of the matter lies in that in both cases they were considered not as elicited by activity but as eliciting it.

The fact of the changeability of the concrete expression of psychophysiological functions depending on content of the activity of the subject became apparent very quickly. The scientific problem, however, was not to ascertain this dependence (it had long ago been ascertained in countless works of psychologists and physiologists) but to investigate those transformations of activity that lead to a reconstruction of the ensemble of brain psychophysiological functions.

The significance of psychophysiological investigations is that they disclose those conditions and consequences of the formation of processes of activity that require a reconstruction or formation of new ensembles of psychophysiological functions, new functional brain systems, for their accomplishment. A simple example is the formation and consolidation of operations. The initiation of one operation or another is of course determined by the presence of conditions, means, and methods of action that are made up or assimilated from outside; the joining, however, of one elementary link to another forming the composition of the operation, their “compression” and their transfer to lower neurological levels, takes place in subordination to physiological laws with which psychology cannot but reckon. Even for the study, for example, of exterior motor or mental habits we always intuitively depend on empirically compounded representations about the mnemonic function of the brain (“repetition is the mother of learning”), and it only seems to us that the normal brain is psychologically mute.

It is another matter when investigation requires precise qualification of the activity processes studied, particularly activity that occurs under deficit time conditions, increased demands, and precision, selection, etc. Here psychological investigation of activity cannot but include as a special problem analysis of the activity at the psychophysiological level.

In engineering psychology the problem of separating activity into its elements, determining their time characteristics and the carrying capacity of separate receiving and “exit” apparatuses, becomes most urgent. The concept of elementary operations was introduced, but in an entirely different sense, not in a psychological, but in a, so to speak, logical-technical sense, which dictated the necessity of extending the method of analysis of machine processes to human processes participating in the work of the machine. This kind of fractionation of activity for the purposes of describing it formally and applying theoretical-informational measures, however, was confronted by the fact that it resulted in a complete disappearance of the main forming activities from the field of investigation; its main determining factors and activities were, in a manner of speaking, dehumanized. Besides, it was wrong to give up that study of activity that would have gone beyond the limits of the analysis of its general structure. Thus a peculiar controversy arose: On the one hand, while their various connections with the world serve as a basis for isolating the “units” of activity, an individual entering into social relations in this world could initiate activity with its goals and objective conditions before the units could be divided further within the limits of the given system of analysis; on the other hand, the problem of studying intracerebral processes, which requires further division of these units, still persisted.

this respect in recent years there was developed the idea of “microstructural” analysis of activity, a problem that consists in uniting genetic (psychological) and quantitative (informational) approaches to activity. It was necessary to introduce concepts of “functional blocks,” of direct and reverse

connections between them forming the structure of processes that realize activity physiologically. Here it is assumed that this structure wholly corresponds to the macrostructure of activity and that isolating separate “functional blocks” allows a more penetrating analysis continuing in smaller units. Here, however, we are confronted with a complex theoretical problem: understanding those relationships that connect among them the intracerebral structures and the structure of the activity that they realize. Further development of microanalysis of activity will necessarily bring this problem forward. The very procedure, for example, of investigating reverse connections of excited elements of the retina of the eye and brain structures responsible for constructing primary visual images is based on the registration of phenomena that take place only because of a subsequent treatment of these primary images in such hypothetical “semantic blocks,” the function of which is determined by a system of relations that in their very nature appear to be extracerebral – and this means nonphysiological.

According to the character of their mediation, the transfers about which we are speaking are comparable to the transfers that connect the technology of production and production itself. Of course production is realized with the help of tools and machines, and in this sense production appears to be a consequence of their functioning; however, tools and machines originate in production, which is already a category not technical but social-economic.

I allowed myself to introduce this comparison with only one thing in mind: to single out the idea that analysis of activity at the psychophysiological level, although it proves the possibility of adequate use of precise indicators, the language of cybernetics and theoretical-informational measures, still unavoidably abstracts itself from the consideration of activity as a system initiated by live relations. Speaking more simply, objective activity, just like psychic images, is not produced by the brain but is its function, which consists in the images being realized by means of the physical organs of the subject.

As was already said, an analysis of the structure of intercerebral processes, their blocks or constellations, presents a further division of activity, its moments. Such a division is not only possible but often unavoidable. It is necessary only to be clearly aware of the fact that it transfers the investigation of activity to a special level, to the level of the study of a transition from units of activity (actions, operations) to units of brain processes that realize them. I want especially to emphasize that I am speaking particularly about the study of transitions. This distinguishes the so-called microstructural analysis of objective activity from the study of higher nervous activity in concepts of physiological brain processes and the neural mechanisms, the data of which can only be compared with corresponding psychological phenomena.

On the other hand, investigation of intercerebral processes that realize activity leads to a demystification of the concept of “psychic functions” in its former classic meaning – that of a bundle of faculties. It becomes apparent that this is a manifestation of common functional physiological (psychophysiological) properties that generally do not exist as separate units. One must not think, for example, about the mnemonic function as separated from the sensory, or vice versa. In other words, only physiological systems of function realize perceptive, mnemonic, motor, and other operations. But let me repeat, operations cannot be reduced to these physiological systems. Operations always are subject to objective-subjective, that is, extracerebral, relations.

As noted by L. S. Vygotskii, the neuropsychological and pathopsychological are another very important way of penetrating into the structure of activity of the brain. Their general psychological significance is that they allow the observation of activity in its degeneration, depending on exclusion of separate portions of the brain or on the character of those more general disturbances of its function that are expressed in mental illness.

I will note only certain data obtained from neuropsychology. As distinct from naive psychomorphological representations according to which external psychological processes are identified with the function of separate brain centers (centers of speech, writing, thinking in concepts, etc.), neuropsychological investigations indicated that these complex processes of social-historical origin, formed in the course of life, have a dynamic and systemic localization. As a result of comparing the analysis of extensive data collected in experiments with individuals ill with various disturbances of localized centers of the brain, a picture appears of how various “components” of human activity are specifically “deposited” in its morphology.

Thus neuropsychology on its part – that is, from the standpoint of brain structures – allows a penetration into the “performing mechanisms” of activity.

The failure of separate parts of the brain, which leads to a disturbance of one process or another, presents another possibility: to investigate in these absolutely perfect conditions the functional development of these parts, which appear here in the form of their reestablishment. More precisely, this relates to the reestablishment of external and mental actions, the carrying out of which became impossible for the patient as a result of the fact that the central disturbance excluded one of the links of one operation or another that these actions carried out. In order to bypass a preliminarily carefully diagnosed defect of the patient, the investigator projects a new composition of operations capable of carrying out the given action and then actively formulates in the patient the new composition in which the damaged link does not participate but which includes instead a link that, under normal conditions, is redundant or even nonparticipating.

There is no need to speak of the general psychological significance of this direction of the investigation; it is self-evident.

Of course, neuropsychological investigations, just like investigations of psychophysiology, necessarily present the problem of transition from extracerebral relations to intracerebral. As I have already said, this problem cannot be solved by means of direct comparisons. Its resolution lies in the analysis of the working of the system of objective activity as a whole in which is also included the functioning of the physical subject – his brain, his organs of perception and movement. The laws that control the processes of this functioning are, of course, apparent only as long as we do not proceed to the investigation of the objective actions that are realized by these processes or of images that can be analyzed only by investigating human activity at the psychological level. No different is the situation in a transition from the psychological level of investigation to the wholly social: Only here the transition to the new, that is, the social laws, takes place as a transition from investigating processes that realize relationships of individuals to an investigation of relationships that are realized by the common activity of individuals in society, the development of which is subordinated to objective-historical laws.

Thus a systemic study of human activity must also be an analysis according to levels. It is just such an analysis that will make it possible to overcome the opposition of the physiological, the psychological, and the sociological, as well as the reduction of any one of these to another.