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Basic Principles of a Psychological Analysis in the Theory of Activity

The general psychological theory of activity created by L. S. Vygotsky, A. N. Leont'ev, A. R. Luria, and their disciples has entered a critical phase in its development. An external sign of the advent of this phase is the increased frequency of discussions of the role of the category of activity in building the conceptual apparatus of psychology. One hears ever more insistently the idea that the category of activity is threatening to become a kind of monster, ready to devour all other psychological concepts [4,14,37,45]. An internal sign of the advent of this critical phase in the development of the theory of activity is the discrepancy between the tremendous amount of factual material accumulated in the various special areas of psychology in which the theory of activity plays a special role and the initial principles of this theory, formulated very early, when it was just being developed. As a result, a paradox has emerged: a theory engendered by the exigencies of practice is beginning to be perceived as a theory independent of practice. A critical phase in the development of any theory, like a crisis in the development of the life of a child, means the beginning of a new stage in its existence. For such a critical phase to occur, at least the following steps are, I think,

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necessary. The first step is enumerating the original principles of the theory of activity. The second involves an analysis, through the prism of these original principles, of all the factual material accumulated in the special areas of psychology and in general psychology. This analysis will overcome the discrepancy between the key principles of the theory of activity and the factual material, and will also help to refine and modify those principles. Finally, the third stage is the development of prospects for basic and applied research, i.e., defining the area for the most immediate development of a psychology built on the basis of a general psychological theory of activity.

The purpose of this article is to delineate the original principles of the general psychological theory of activity (i.e., to venture the first step). These principles were shaped in a struggle with various trends in foreign psychology. Hence, I think it useful to dwell on them a bit, contrasting them with the principles and postulates of other psychological theories. I shall not discard the postulates of all these concepts, but only "bracket" them while analyzing them comparatively.

The fundamental principles of the theory of activity are: the principles of object-relatedness, activeness, the nonadaptive nature of human activity, analysis of activity "by units," internalization and externalization, mediation, the concept that reflection in the mind depends on the place of the reflected object in the structure of activity, and, finally, the principle of historicism.

The principle of object-relatedness as opposed to the stimulus principle

In V. V. Davydov's precise definition [24], the principle of object-relatedness is the core of the theory of activity. This principle and the closely related phenomenon of object-relatedness enable us to draw a clear distinction between the activity approach and various naturalistic behavioral concepts based on the "stimulus—response" or "organism—environment" paradigms and their numerous modifications in neobehaviorism [9]. Since the purport of the theory of activity cannot be understood without a detailed

elucidation of the principle of object-relatedness, let us see what it entails.

This is not a simple matter, however. From the very first steps, we encounter those "dear" obstacles, as Engels called them, that obstinate metaphysical thinking places in our path. The first of these obstacles is that an "object" is taken in its everyday meaning as a "thing," i.e., independent of activity. This conception is fertile soil for various vulgarisms, such as the assertion that object-related activity is merely manipulation of objects and nothing more. The reality surrounding us is then immediately and neatly (as the behaviorists say) divided into a world of stimuli ("things") acting on a subject, and a world of responses. But, as A. N. Leont'ev has emphasized, the subject understands an object not as a "thing," an object of nature existing in itself, but as ". . . that toward which an act is directed . . . i.e., something to which a living being relates *as the object of its activity*, regardless of whether the activity is external or internal" [34. P. 39]. Leont'ev continues, in a later work: ". . . the object of activity has a dual existence: first, in its independent existence, as something that subordinates to itself and transforms the activity of the subject, and, second, as the image of an object, as the product of the reflection in the mind of its properties, a reflection that takes place as a result of the activity of the subject, and cannot be accomplished in any other way" [36. P. 84]. In turn, the image-regulated activity of the subject is objectified in its product. In the process it is transformed into an ideal *suprasensory* aspect of the things it produces, into a special systemic quality of them [24].

The above theoretical postulates constitute the basis for an understanding of the principle of object-relatedness in the theory of activity. However, it is not easy to perceive the psychological reality behind them, and the impression is sometimes created that these postulates remain at a very highly abstract level. Hence, I deemed it necessary to indicate directly the different phenomena of object-relatedness that are manifested in the cognitive and motivational-need spheres of the activity of the individual person.

There are numerous findings in empirical psychology that illuminate the most varied aspects of the phenomenon of object-

relatedness. First, there are the phenomena, discovered by the Gestalt psychologists K. Lewin and K. Dunker, of the "the nature of a requirement" and "the functional fixity" of objects. The "nature of a requirement" and "functional fixity" also rank among those properties of an object with which the object is invested as soon as it becomes part of an integral system, of some phenomenal field [25,53].

The essence of the phenomenon and principle of object-relatedness is revealed especially clearly in findings that indicate a discrepancy, even a conflict, between the natural logic of movement determined by the purely physical properties of an object as a "thing" and the logic of an action with an "object" upon which a fully defined set of operations is fixed during the process of social labor. Such a conflict served as a prototype for the methodological principle used in the empirical studies of children's practical intelligence conducted by A. N. Leont'ev and co-workers, L. I. Bozhovich, P. Ya. Gal'perin, A. V. Zaporozhets, and others in the '30s. Here is an example from a study by Bozhovich. The investigator asked three- to five-year-olds to get a picture that was fastened to a lever on a table. The hitch was that in order to get to the picture, the child had to push the end of the lever accessible to him away from himself. The child would first attempt to reach it with his hand, then would draw the handle of the lever toward himself, but would always fail, since the logic of the immediate perception of the situation entered into conflict with the logic of the "tool" that, using K. Lewin's term, "required" that the child push the handle away from himself [28], as only then would the picture be drawn to him. Experiments by P. Ya. Gal'perin were based on the same principle. Gal'perin was able to pinpoint the exact moment of transition from the natural logic of the hand's movement with the tool as a natural thing to the logic demanded by the operation objectified in the tool [22]. Later, the specific characteristics of "object-related" actions were very clearly and fully described by N. A. Bernshtein.

> At the object level, movements are performed on the basis not of a spatial image, but of a semantic image, and the motor components of the sequence of actions are dictated and selected

> on the basis of the semantic essence of the object and of what must be done with it. But since this semantic essence by no means always coincides with the geometric form or spatial-kinematic properties of the object, a rather high percentage of the movements that are part of object-related actions do not lead directly to the place where spatial perception dictates. . . . [12. P. 131]

Procedures for opening the lid of a box by pressing it downward, or for rotating a boat counterclockwise by turning the rudder clockwise, are examples of movements in which an object figures, in the first instance, not as a "material point in space" or as a stimulus eliciting a response, but as an object that is at the same time an embodiment of sociohistorical experience, defining an object-related action.

A. N. Leont'ev and his colleagues, in studying the meanings embodied in tools, and N. A. Bernshtein, who studied the nature of object-related acts, were dealing with the same reality as K. Lewin and K. Dunker. But in contrast to the Gestalt psychologists, they were able to determine the actual origin of this reality, the "systemic qualities" of an object [33], and perceive behind it the activity that "enveloped" the objects of the human world (see [9]).

The phenomenon of object-relatedness disappears as soon as an object is taken out of the context of an activity, regarded as a particular system. Hence, all the discussions (see [16]) about whether in Leont'ev's theories the motive was outside or within the object are based on a misunderstanding stemming from a purely naturalistic interpretation of the relations between subject and object. Let us once more stress that in no object per se is it inscribed that it should be a motive of activity, but that, nevertheless, any object can become a motive (the object of a need) and acquire such supersensory systemic qualities as the "character of a requirement" when, but only when, it enters into a definite system of activity.

Even such a completely "corporeal object" as man is invested with these supersensory systemic qualities, as he continually enters into new relations with other people and, at the same time,

becomes a motive for their activity. The paradox here is that it is these qualities of a person, not what is concealed beneath his skin, that constitute the essence of his personality. Common sense resists, in the most varied ways, such an "objective" conception of the personality, which enters the common mind sometimes in the form of divergent notions, such as idealization and beautification of a loved one. But in reality, the person doing the loving is involved in a creative activity, such as "the creation of love," and does not idealize, but rather, simultaneously, both *invests* another person with and discovers in him whatever may be real, the best in him.[1]

In studying the phenomena of object-relatedness, a number of questions arise, in particular, the question of the genesis of object-relatedness. Roughly speaking, it may be hypothesized that object-relatedness passes through the following three stages in its development: in phylogeny the world appears to animals as a *biosemantic space*, a space of biological meaning; in the early stages of development of mankind, the world faced man as a *space of meanings* (this is especially graphically evident, for example, in analyzing primitive consciousness, in which sense and meaning are not yet distinct and are still completely identical [35]); finally, the next stage of development of object-relatedness is the generation of a *space of personal sense*.

Thus, there is a whole series of phenomena, described above, that are characterized as phenomena of object-relatedness and that serve as a real foundation for identifying the principle of object-relatedness. If the principle of object-relatedness is considered primary, then (*a*) the opposition between the world of stimuli and the world of responses that is inherent in behaviorism is eliminated; and (*b*) the subject and the object may be viewed as poles of a single integral system, a system of activity, within which they, moreover, first acquire the systemic qualities inherent in them. An analysis of activity at the pole of the subject takes us directly to another fundamental principle in the theory of activity, the principle of activism.

The active principle as opposed to the reactive principle

Ideas asserting the reactive and passive nature of man have always been, and remain, a distinctive characteristic of various psychological and physiological concepts based on notions of mechanical materialism, which characteristically view man as a kind of machine. A singular illustration of the persistence of such views is an imaginable concordance of views among medieval philosophers, physiologists working within the framework of reflex theory, behaviorists, and representatives of cognitive psychology who design their investigations of cognitive processes on the basis of the "computer metaphor" [55]. Thus, Sherrington concurs with Watson in stating that animals are only marionettes that the phenomena of the external world force to act as they do [49. P. 18]. Sherrington, however, following Descartes, carefully speaks of the reactive and passive nature *only* of animals. On the other hand, Watson, the founder of behaviorism, declares, with his customary categorical insistence: ". . . Psychologically, man still remains a lump of unanalyzed protoplasm" [48. P. 6]. A half-century later, Skinner repeated Watson, saying that it was not man himself, but his environment that bore responsibility for man's behavior [56]. But the transformation of man into a marionette by the behaviorists, and into a functionary manipulated by different reinforcements in Skinner's social behaviorism, is no more than what was to be expected. In proposing the abbreviated S–R paradigm to explain behavior, the behaviorists attempted to exclude such apparently mystical categories as "intention," "image," "consciousness," "apperception," "freedom," "guilt," etc.—in brief, everything that had to do with the activeness and partiality of the subject (see [7]).

In contrast to these principles, Soviet psychologists, particularly representatives of the school of which we are speaking, insisted on the partiality and activeness of mental reflection, which mediates the subject's activity. We may today outline three approaches that focus on different aspects of the principle of activeness.

In the first and most traditional of these approaches, the dependence of cognitive processes on various types of values, goals, sets, needs, emotions, and past experience is studied; and these qualities are considered to be the determinants of the "selectivity and directness" of the subject's activity. As A. N. Leont'ev wrote,

> The concept of the subjectivity of an image also comprises the concept of the subject's *partiality*. Long ago psychology described and studied the dependence of perception, representation, and thinking on what "was necessary to a person," on his needs, motives, sets, and emotions. It is important to stress here that this *partiality* is itself objectively determined, and is expressed not in the inadequacy of an image (although it may be reflected in it), but in the fact that it makes it possible to penetrate reality actively. [35. Pp. 55–56]

The varying depth of the subject's contribution to mental reflection shows up at different levels, from the selectivity of perception, which is contingent on the preceding context, to the partiality of reflection, which is contingent on the person's motives, i.e., on the discovery of the personal sense of various events. It should be pointed out that this understanding of activeness in many respects brings the theory of activity into line with the conceptions of various relevant schools in the Soviet Union and abroad. It is most fully expressed in the well-known formula of S. L. Rubinshtein according to which external causes operate through internal conditions [42].

The second approach to the problem of activeness is the antipode to the various notions of behavior based on the reactive principle. This approach views cognition and mental processes in general as creative and productive, as processes *generating* a mental image. Representatives of this approach (N. A. Bernshtein [13], P. Ya. Gal'perin [21], and A. N. Leont'ev [35]) demonstrated from the very outset that in an environment in which behavior is possible as a reactive adaptation to the world, there is, strictly speaking, no necessity for mental reflection, and all of the subject's reactions can be based on innate physiological mecha-

nisms or patterns and standards attuned to the recognition of an object.

Quite recently, from a somewhat unexpected quarter, the representatives of the second approach have achieved confirmation not only that they are on the right track but also that their approach is a timely one (see [55]). Specialists in developing mathematical models for recognition of an image found that the fable formula "Go I know not whither, find I know not what" had a much deeper meaning than might appear at first glance. They discovered that in real life, encounters with such "poorly formulated tasks" were more the rule than the exception. Indeed, we have all been in a situation in which the letter S could be perceived as the figure five or a snake, etc. The following features are characteristic of such situations: first, they contain an indeterminacy and little indication of what is required; second, to resolve them it is always necessary to turn to particular, *ad hoc* methods of solution applicable only to the given case. Thus, as we see, representatives of the different versions of the theory of image recognition and cognitive psychologists such as Neisser find themselves in difficulty when they must answer the question of how "poorly formulated" categories are recognized. They attempt to find their way out of this situation by devising universal models by means of which an image is recognized and by fitting the stimulus to the preset standard [55]. Such molds or finished reflex mechanisms of behavior would be the most economical means of adapting to a stationary environment, but not to a changing one. In a stationary environment, behavior based on the reactive principle would best guarantee the organism's survival.

But as Bernshtein noted when he developed his views about motor memory as a creative activity, whatever man did—running over an uneven terrain, fighting with other animals, doing some practical task—he invariably had to overcome forces that were *independent of his will, unforeseen, and unable to be overcome by any stereotyped movement controlled only from within* [12]. If this is the case, neither remembering nor perception can be explained by associational or behaviorist concepts that regard these processes as merely a passive "response" to influences from

without, based on memory traces and patterns fixed once and for all in the nervous system. These processes are always a multiphase *active* construction, i.e., the *construction* of movements, not their repetition [12]. Ideas similar to those of Bernshtein were those of Leont'ev and his followers concerning the formation of an image, which was seen as the generation and replication of the properties of the object and its likening to the tasks that were to be solved (see [29]). Thus, this second approach to the problem of activeness persuasively demonstrates, on the basis of the results of studies of perception and memory, the limitations of the principle of reactiveness as a universal principle in explaining human activity.

The third approach to the problem of activeness centers on the idea of the self-movement of activity, the activeness of the subject as a necessary internal aspect of its self-development. Since this approach to the problem of activeness is inseparable from the principle of the readaptive nature of human activity, I shall analyze it in the following section.

The postulate of the nonadaptive nature of object-related human activity as opposed to the principle of adaptivity

An analysis of the principle of nonadaptivity purporting to explain the specific nature of human activity must include the following: (*a*) a critical analysis of empirical psychological theories that claim to explain human behavior on the basis of the biological principle of homeostasis; (*b*) an analysis of how a need is transformed in the course of activity in accordance with the formula: "The internal (subject) acts through the external, undergoing change itself in the process" (A. N. Leont'ev); (*c*) a detailed exploration of the postulate that the development of human needs is object related (in the Marxist sense of the term) and unbounded, as a consequence of the universal plasticity of search activity and the continual reproduction of mental and material cultural objects; (*d*) new attempts to study the psychological mechanisms of the self-development of activity.

Let us briefly consider each of these.

Psychology inherited the principle of homeostasis from traditional biological theories stating that all reactions of the organism—regarded as a system that passively adapts to the influences of the environment—fulfill exclusively a strictly adaptative function, namely, that of restoring the organism to a state of equilibrium. As demonstrated by V. A. Petrovskii, this principle has assumed the most varied forms in empirical psychology [39]. It was particularly distinct in reflexology, in which all activeness on the part of the subject was reduced to striving to establish equilibrium with the environment. But whichever of these forms we consider, they all have one thing in common: they all postulate the subject's striving toward some *finite, preestablished end.* This subordination of activeness to a final preestablished end is the essential feature on which the premise of the adaptative nature of the organism is based [39].

Indeed, it would be naive to deny that man displays a wide range of behavioral acts that are adaptative in nature (on this point, see [5]). As L. M. Wecker once pointedly observed, just as an airplane in flight does not contradict or suspend the laws of gravity, nonadaptative activity is in no way a denial of adaptative behavioral responses.

The nonadaptative nature of object-related activity shows up clearly in a study of human activeness adhering to the paradigm "The internal (subject) acts through the external, itself undergoing change in the process." The essence of this Leont'ev formula of activeness may be illustrated by the development of human needs. Initially, a need is a purely dynamic energy impulse, a physiological drive, which leads to purposeful search activity. Because of its *universal plasticity* (V. V. Davydov), such activity can subjugate, assimilate, and incorporate the most varied objects of the surrounding world [24]. Until this "internal" drive finds its object in an active process, it can cause only that which is "external," the active search process itself. However, as soon as this drive encounters an object that has not been predetermined, the picture changes strikingly. The drive is transformed, objectified, and need begins to control and guide activity. Need becomes

an object of psychological analysis only in this guiding function [36]. Whereas the range of objects upon which a need may be fixed is very limited in animals, in man it has no limits, by virtue of man's ability continually to transform his environment and to produce material and spiritual values. The transformation of needs according to the above formula for activeness, i.e., the transition from a physiological state of material need, which serves as a premise for activity, to the strictly psychological regulation of activity, is, of course, only a special case of such transformations. These transformations also take place within the person as a whole, leading to the genesis of the personality, or indeed within the personality itself, serving as the self-moving force of its development. Rubinshtein emphasized the latter especially when he wrote: "I am continually disturbing and changing my situation by my actions, and at the same time I am continually going beyond my own limits" [43. P. 334].

The methodological notions of an "independent force of reaction" (Engels) and the *self-movement* of activity define a general strategy of search for the concrete psychological phenomena and the mechanisms of this self-movement. Leont'ev stressed that the sources of both self-movement and the conservation and stability of activity must be found in activity itself. To determine how a new activity is born, a recent attempt was made to study empirically excess activeness, that peculiar "motor force" of activity, arising in the course of the movement of activity [39]. On the basis of findings of an analysis of the phenomenon of "selfless risk," manifested in a situation of danger, it was shown that man has a clearly nonadaptative tendency to act, as it were, contrary to adaptative drives above the threshold of internal and external situational necessity. The origin, "a suprasituational activeness," generated by the development of activity itself, underlies the phenomenon of "selfless risk" and, especially, the generation of any new activity. These studies put into primary focus the idea of the nonadaptative, nonpragmatic nature of the activeness of the subject and of his self-development, thus laying the foundations for a new range of problems in the analysis of activity [39].

Studies of supersituational activeness link up directly with

studies using notions of set, seen as mechanisms that are responsible for the stability of the movement of activity [9]. Whereas set attempts to hold activity within preestablished limits, buttressing its stability, suprasituational activeness breaks these sets, carrying the individual person to new levels in dealing with life's tasks [8,9,38,39]. Ideas of a dynamic approach to study of the mechanisms of development of activity intersect in many respects with Rubinshtein's interpretation of the mind as a process (see [14]). From the standpoint of a dynamic approach, developed in the mainstream of the theory of activity, to psychological analysis of activity, we get a fundamentally new view of existentialist concepts of foreign humanistic psychology of self-fulfillment (G. Allport) and self-actualization (A. Maslow) of the personality [52,53] and discover the true nature of the psychological mechanisms of the development of the personality. These points together constitute a special problem within a recent series of studies of the personality [10].

The principle of mediation as opposed to the principle of nonmediated associational relations

Vygotsky's postulate that man uses higher mental functions and external and internal symbolic means as tools to gain mastery over his activity and moves on to intentional voluntary regulation of behavior has become one of the founding principles of Soviet psychology, and is dealt with extensively in the Soviet literature [17,18,19, 23].

We must specify the problems for the solution of which Vygotsky introduced this principle. First, there was the problem of superseding the postulate of immediacy in traditional psychology and the assumption, emanating from this postulate, that the laws governing adaptation to the world are the same in animals and man. The second and main problem was that of studying the *transformation* of the natural mechanisms of mental processes into the specifically human "higher mental functions" as a result of man's assimilating the products of human culture in the course

of his sociohistorical, ontogenetic development. As Marx expressed it, this was the problem of studying man's transformation from being a "subject of nature" into being a "subject of society" [2. P. 50]. As he dealt with this problem, Vygotsky also developed the interrelated postulates that higher mental functions were mediated and that they were internalized [18]. How these postulates were applied in specific psychological investigations may be illustrated by the findings of an analysis of mnemonic activity.

Three periods may be distinguished in the development of psychologists' views of the role of external props in the process of remembering and forgetting. Initially, psychologists such as Ebbinghaus systematically tried to eliminate the influence of memory aids on remembering, viewing them as annoying obstacles in the way of the search for "the pure" laws of memory. The hallmark of the second period, which in foreign psychology was roughly the '60s, was that the use of external devices was no longer regarded as a stunt, but rather became the subject of special studies in analyzing techniques for improving the effectiveness of remembering (see [55]). Views of the role of external and internal devices in remembering and, more broadly, in human behavior in general underwent a radical turn in the works of Vygotsky's school in the late '20s and early '30s. Whereas representatives of associational and cognitive psychology viewed such techniques merely as devices to facilitate remembering, Vygotsky saw them as representing a transition to a fundamentally new type of adaptation of man to the reality around him, a form of adaptation distinct from adaptation in animals, which is directly determined by stimulation. In other words, Vygotsky and the representatives of associational and cognitive psychology interpreted the very same findings in completely different ways. Vygotsky wrote:

> Let us look more deeply at the fact that in tying a knot by memory, man essentially constructs a process of recall from without: he reminds himself through an external object, and thus, in a certain sense, brings the process of remembering up to the surface, transforming his external activity. If we examine

> closely what actually occurs here, one simple observation reveals the complete uniqueness of higher forms of behavior. In the one case, something is remembered, and in the other, man remembers something. In one case, a temporary connection is established on the basis of the interaction of two stimuli acting simultaneously on the organism; in another, man himself creates a temporary connection in the brain, using an artificial combination of stimuli.
>
> Human memory essentially consists in man's active remembering with the aid of symbols. Concerning human behavior in general, one can say that man actively intervenes in his relations with his environment, and that he alters his behavior through the environment, subjecting it to his own will. [18. Pp. 119–20]

The postulate that mediation regulates the social determination of behavior through specifically cultural symbolic stimuli gives a glimpse of the position that later became crucial in the theory of object-related activity concerning the mediation of mental reflection by those substantive processes that link the subject with the objective world, i.e., the process of object-related activity (Leont'ev). In addition, one may also see the rudiments of views on the mediation of interpersonal relations by joint object-related activity (A. V. Petrovskii), views that are so important for modern social psychology. From the principle of mediation emanates the postulate that the structure of external and internal activity constitutes a unity, whose main contours are clearly visible in Leont'ev's studies of externally mediated remembering and internally mediated remembering, the latter being the result of the transformation of external devices into internal devices in the ontogenetic development of memory.[2] This same study shows graphically that the principle of mediation is inseparable from the principle of internalization.

The principle of internalization and externalization as opposed to the principle of socialization in foreign psychology

One may anticipate encountering many difficulties in analyzing the principle of internalization–externalization as a principle

clarifying the mechanism of man's assimilation of sociohistorical experience, the transformation of joint external acts into the internal acts of the subject, and the development of the personality. One of these difficulties consists in getting rid of a very persistent, limited interpretation of the principle of internalization.

First, I think it is necessary to show that the persistent view that adherents to the theory of activity opposed the concept of "socialization" as such is unjustified. This view grew out of the following arguments. The first of these, as correctly pointed out by G. M. Andreeva [6], had its source in Vygotsky's sharp criticism of Piaget's ideas of the socialization of the child. In Piaget's early studies, the social environment is interpreted, according to the canons of psychoanalysis, as an external force alien to the child that *constrains* him to adopt alien thought patterns [see 17]. Vygotsky, and later his followers, did indeed speak out against this motley mixture in the concept of socialization, in which psychoanalysis was capriciously intermingled with Durkheim's sociological theory. The second source of the above view was Leont'ev's continuing endeavor to give substance to the concept of "socialization." In his attempts to do this, Leont'ev introduced the idea of internalization–externalization as transitive processes in the system of man's object-related activity. Finally, another source of this view, which must be overcome before we can restore the original broader sense to the concept of "internalization," has been that, since the mid-'50s, such representatives of the activity approach as P. Ya. Gal'perin, V. V. Davydov, and N. F. Talyzina have concentrated mainly on the study of internalization as a mechanism for moving from external practical or cognitive activity to internal activity [22,23,45]. These studies, which centered on the problem of the transition from the external level of activity to the internal, *ideal* level, produced, in the works of P. Ya. Gal'perin and his followers, the theory of a step-by-step formation of mental acts. However, the fact that these studies were concentrated primarily on individual cognitive activity implicitly narrowed the concept of "internalization" to one explaining the mechanism of transformation of the material into the ideal, the external into the internal in *individual* activity, and to

the interpretation of external activity (in the studies by Leont'ev and Gal'perin) as something with no mental components (see [14]). The broader sense of the concept of "internalization" as a mechanism of socialization fell into obscurity. But in the early '30s, Vygotsky had very clearly stated:

> For us to say that a process is "*external*" is to say that it is "*social.*" Any mental function is external because it was a social function before it became an internal, mental function in the strict sense: it was first and foremost a social relation between two people. [18. P. 197] [Emphasis added—A. A.]

Let us recall that for Vygotsky internalization was also a transition from what was external, existing between two minds, to what was internal, within a mind. Three aspects must be distinguished in the concept of "internalization."

The first of these we may call the aspect of *individualization*. Clarification of this aspect enabled Vygotsky to reflect a fundamental genetic law of cultural development: from the interpsychical, social, collective activity of the child to individual, intrapsychical, strictly psychological forms of activity. The essence of this law of development of the specific forms of activity is graphically outlined in Vygotsky's studies on the transformation of external social speech, "speech for others," into internal speech, "speech for oneself." There are some quite recent studies of internalization of interpersonal relations in ontogeny. For example, V. V. Abramenkova has shown how human relations with peers emerge and are expressed in the joint activity of preschoolers [13]. Initially, joint activity, which requires physical cooperation among children, engenders and completely determines the human relations mediated by it. In the course of joint activity, these human relations are internalized with age, and then become fixed in the human semantic orientations of the child's personality, being expressed in such emotions as sympathy with the misfortunes and delight in the successes of others. In ontogeny, the interrelations between human or, more broadly, interpersonal relations, which become a fixed orientation of the personal-

ity, and joint activity are intertwined: whereas in children joint activity is engendered without mediation and itself mediates human relations, in adults human relations, having become cemented in the attitudes of the individual person, themselves mediate and even determine the choice of a specific activity. Studies along this line confront representatives of activity theory with the problem of studying the internalization of interpersonal relations, a problem that still awaits solution.

The second aspect of the concept of "internalization" reflects the transition from "we" to "I" [32] and, in my view, is best conveyed by the term *intimization*. Study of this aspect brings us to such problems as that of personal self-awareness. In examining this aspect of internalization, we may refer, for example, to the profound observations of S. L. Rubinshtein, who saw the beginning of the child's becoming aware of his own "I" in the simple fact of a two-year-old's referring to himself in the third person (Petya, Vanya), i.e., the name he is called by other people, and only later in the first person ("I") [43].

Finally, the third and most frequently studied aspect of the concept of "internalization" is that which sees it as *the production of the internal "level of consciousness."* A detailed study of this aspect of internalization would probably serve as a special guarantee against one-sided interpretations. Nevertheless, internalization is sometimes seen as a direct mechanical process of translating the external and material into the internal and ideal. Sometimes such an impression may arise from the stress given in activity theory to the postulate that external and internal activity constitute a structural unity. But, for example, as Vygotsky pointed out more than once, to say that a unity exists between thought and word by no means means that they are identical. The elegant facts reflecting the transformations taking place in the structure of external speech when it is transformed into internal speech (a special syntax, the predominance of sense over meaning, a confluence of different senses, etc.) or the specific features, discovered by Gal'perin, of the transformation of external activity into internal activity, such as generalization, expansion, etc., help to avoid the impression that internalization is really a process of

mechanical transfer. Of course, these features themselves require further study and clarification of their strictly psychological content [24].

Only an examination of all these facets of the principle of internalization–externalization can give substance to our ideas of the mechanism of socialization in the theory of object-related activity.

The principle of psychological analysis "by units" as opposed to the principle of analysis "by elements"

The principles of reactiveness and nonmediation always go hand in hand with the principle of an atomistic analysis of the mind in psychological theories based on mechanical materialism. This principle is based on the conviction inherent in mechanical materialism that the whole is always the sum of its parts and no more (on this point, see N. A. Bernshtein [12]). In psychology, Vygotsky called this analysis "by elements." He wrote:

> The essential feature of this analysis is that the products it yields are elements of a totally different nature from that of the whole being analyzed; they do not contain properties residing in the whole as such, and have a number of new properties that this whole could never display. [17. P. 46]

A typical example of an analysis of human behavior "by elements" would be the reduction of human behavior to a sum of reflexes in radical behaviorism. The *systemic* principle of analysis "by units" is completely the opposite of the principle of the analysis "by elements"; the essential feature of analysis "by units" is that its product has all the main properties inherent in the whole [17].

Leont'ev's views on the structure of object-related activity is based on this principle of analysis "by units." Object-related activity, which has a hierarchical, multilevel structure, contains relatively independent "units" that, however, are inseparable from its living flux: these units are acts and operations. Leont'ev

called special attention to the fact that the structural components, the "units," of activity do not have an independent existence. In delimiting these "units" we are, as it were, answering the following three questions: "*For what reason* is an activity carried out? *What is the aim* of an activity? *In what ways*, by what means, is an activity carried out?" To answer the first question, we defined a *system-forming* attribute characterizing the particular activity, e.g., the motive of activity (the object of a need). To answer the second question, we distinguished within an activity a *system-forming* attribute that is hierarchically subordinate to the first, namely, a *goal* toward which the subject, impelled by a particular motive, strives. Processes aimed at achievement of a conscious, foreseeable result, i.e., a goal, are *actions*. But an action does not take place in a vacuum; it always takes place under definite conditions. To answer the question of what means are used to effect an action, actions are broken down into operations, i.e., means for achieving the goal of the action; the operations are compatible with the *conditions for carrying out the action*. Given these circumstances, some "functional meanings" are fixed as a consequence of externalization [30]. Finally, the fourth necessary factor in the psychological structuring of activity is psychophysiological mechanisms, those mechanisms that realize actions and operations. This, then, is a brief description of the structure of object-related activity.

Different "units" of activity begin to "work" as an investigator goes about explaining the different aspects of mental reality according to the task he poses for himself [34,51]. Thus, for example, in analyzing the development of the personality, a "particular activity" becomes the "unit." A model for investigations of this type are El'konin's notions of the periodization of the development of a child's personality [50]. A unit such as joint object-related activity has begun to be used more and more actively by G. M. Andreeva and A. V. Petrovsky in studying social perception and the dynamics of group processes in social psychology. An "action" is used as a "unit" of analysis in studying cognitive processes, e.g., in the study of remembering, thinking, or perception. An "action" is regarded as the principal unit of

structural, functional, and genetic analysis of involuntary remembering in Zinchenko's and Smirnov's studies of memory [28,44]. The productiveness of the use of "action" as an "unit" in an analysis of perception may be illustrated by the example of studies done within the framework of the concept of "perceptual acts" [24]. The list of studies demonstrating the explanatory powers of different "units" of analysis of object-related activity could be extended even further (see, for example, [12,23,46]).

Ideas about "units" of analysis of activity and transitive processes between them are constantly being refined and developed (see, for example, [47]). But, however they may vary, the principle of psychological analysis "by units" sets the general strategy for studying the structure of object-related activity.

The principle of dependence of reflection in the mind on the location of the object being reflected in the structure of activity

One piece of evidence that cognition is governed by a specific principle is that, sooner or later, representatives of the most varied orientations in science are confronted by it. The principle that reflection in the mind depends on the location of the reflected object in the structure of activity has undergone at least two births. Not long ago it was noted by cognitive psychologists who had begun to realize that the psychology of cognitive processes could not be developed within the framework of information theory, with its "input-output" paradigm, if the real, substantive processes of man's interaction with the world were disregarded. Neisser, the leader of this school, writes: "Cognitive psychologists must expend tremendous efforts to understand how cognition takes place in a normal environment and in the context of purposeful activity" [55. P. 7]. So long as cognitive processes are not seen in the context of an activity, psychologists will have to be content with purely external, quantitative descriptions of them in line with Neisser's principle of parallel information processing.

Long before cognitive psychologists realized that it was neces-

sary to study cognitive processes within the context of purposeful activity, a principle that had been described as the principle of dependence of reflection in the mind on the location of the reflected object in the structure of activity had been discovered in Soviet psychology in studies of memory conducted within the framework of the theory of object-related activity. Zinchenko and Smirnov demonstrated that the nature of the dependence of remembering on the characteristics of the components of activity, i.e., motives, goals, or conditions for accomplishing an act, itself varied depending on the object being remembered. I shall not undertake here a description of these well-known studies by Zinchenko, but shall merely call attention to the fact that the general methodological procedure for studying involuntary remembering involves direct incorporation of the principle that reflection in the mind depends on the location of the object being reflected in the structure of activity. The essence of this procedure is that the same material must function in an experiment in two forms: first, as an object toward which the activity is directed, i.e., the goal of an act; and, second, as a background, the conditions for achieving the goal, an object that is not directly included in the cognitive or play activity being carried out by the subject. In summing up the results of his studies, Zinchenko concluded that material constituting the direct goal of an act is remembered more concretely and effectively than material having to do with the ways an act is carried out.

The content of the principle that reflection in the mind depends on the location of the reflected object in the structure of activity is shown in a study of creative activity [40] and perceptual activity [27]. This principle also underlies functional classification of emotions [16] and notions about the multilevel nature of phenomena of set [8]. It is one of the important principles in the theory of object-related activity and has considerable explanatory powers that have not yet been fully explored.

The set of principles defined and described above and the principle of historicism, which pervades all investigations using the activity approach, together constitute the unique nature of the theory of object-related activity. Of course, these principles must

not be regarded as canons from which Vygotsky's followers may not deviate an inch.

The canonization of the basic principles of a theory entails much greater dangers than any criticism from without or within. Theories never are killed by criticism: they die in the hands of zealous disciples who are in a hurry to canonize them and then sit back in their easy chairs. Throughout the history of science, in each of its stages, disciples have performed one and the same simple operation, that of raising initial principles to the rank of postulates requiring no proofs. It is no accident that W. Kohler, as B. V. Zeigarnik reminisces, forbade his colleagues to use the concept *Gestalt* to explain any phenomenon, and in this he was absolutely right. If the principles of analysis of activity are elevated to the rank of postulates, the theory of activity will become a theory worthy of attention of only historians of psychology. All the principles that have been delimited in the theory of object-related activity are no more than premises that determine the general direction of development of contemporary psychology, i.e., its future.

Notes

1. S. L. Rubinshtein posed this problem from a different aspect. For him, behind the phenomenon of idealization of a beloved person was the process of a deeper penetration of the person doing the loving into the essence of the beloved one's personality, the discovery of what was already in that person and what was not seen by others (see [43. P. 374]).

2. I think it is necessary, here especially, to underscore this continuity in views between Vygotsky and Leont'ev, inasmuch as it is frequently claimed that Vygotsky was not an adherent to the theory of activity

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