

**VOICES WITHIN VYGOTSKY'S
NON-CLASSICAL PSYCHOLOGY:
PAST, PRESENT, FUTURE**

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Chapter One

**FROM CLASSICAL TO ORGANIC PSYCHOLOGY:
IN COMMEMORATION OF THE CENTENNIAL
OF LEV VYGOTSKY'S BIRTH**

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INTRODUCTION

Of the scientific events that have occurred in the 20th century, many will be remembered in the 21st century. We can be reasonably certain that theories created by L. S. Vygotsky [1896-1934], N. A. Bernstein [1896-1966], and J. Piaget [1896-1980] will be among them. This year [1996], the psychological world celebrates the centennial of these outstanding scientists. The present article is devoted primarily to Lev Vygotsky.

During the last several years, I have continued my efforts to understand Vygotsky's ideas. In this respect, I follow in the footsteps of my teachers: P. Ya. Gal'perin [1902-1988], A. V. Zaporozhets [1905-1981], P. I. Zinchenko [1903-1969], A. N. Leont'ev [1903-1979], A. R. Luria [1902-1977], and D. B. El'konin [1904-1984], who were in turn Vygotsky's disciples, followers, and brothers-in-arms. However far they may have strayed from his path, they always came back to him. Naturally, it is me (and not they) who bears the responsibility for my interpretation of Vygotsky.¹

Non-Classical vs. Organic Psychology

D. B. El'konin was the first who pointed out that what Vygotsky had created was, in fact, a foundation for a new, non-classical kind of psychology, the origins of which could be found

¹ The editors added the dates of the lives of various people mentioned in this paper. We would like to thank Dmitry Leontiev for his help in providing this information. Information has also been taken from Georg Rückriem (Editor), *Aleksej N. Leont'ev: Frühschriften*, 2001, Germany: Pro Business GmbH.

in Vygotsky's work *The Psychology of Art*. El'konin's idea made me think about the term that would capture this "non-classicism" of Vygotsky's cultural-historical psychology. The very task of searching for a new name could become a useful heuristic for understanding cultural-historical psychology in its entirety, and for identifying the specific core that distinguishes this theory from classical psychology. I am not sure how correct I am in suggesting the term "organic psychology." Let my readers be the judge. Some may find it attractive, while others may consider it to be incorrect or even illogical. Strictly speaking, "classical" stands in opposition to "non-classical," and "organic" stands in opposition to "inorganic," or mechanical, but in no way would I dare say that classical psychology is inorganic.

CULTURE AND ART

Cultural-historical psychology is fundamental to issues of culture and civilization, and to areas such as cultural anthropology, education, psychology of art and art itself, developmental psychology, educational psychology, physiology of activity, neuroscience, psycholinguistics, psychoanalysis, psychotherapy, psychopathology, social psychology, engineering psychology, ergonomics, and so forth. Even within cognitive psychology, formerly very self-confident in its independence from other schools of thought, there has been an interest in recent years in the works of Vygotsky and Piaget. It appears that only humanistic psychology still ignores cultural-historical psychology despite the fact that the issues of free action (central to the cultural-historical framework), and that of personal growth, are directly connected.

According to D. B. El'konin, the originality of Vygotsky's non-classical psychology can be seen in its claim that certain affective-meaningful formations of human consciousness exist *objectively*, outside of human beings, for example, in the form of artistic works or other human creations. El'konin emphasized that these structures exist before any individual or subjective, affective-meaningful formations arise (see D. B. El'konin, 1989, pp. 477-478; also, B. D. El'konin, 1996a).

In their works on Vygotsky, D. B. El'konin and B. D. El'konin [born in 1950, son of D. B. El'konin] maintain that such objective, affective-meaningful formations, which exist before and outside of individuals, are ideal forms. They are appropriated and subjectivized (or personalized) during individual development, whereby they become a real form in which both the individual mind and consciousness exist. From the perspective of cultural-historical psychology, the process of development can be characterized as a drama that is played out against the background of relations, transformations, and transitions between real and ideal forms. The developing person emerges in this process like an actor and sometimes like a dramatist. An individual's life in the world serves as a scene for this process. Ideal forms can be described as culture that humans discover at the moment of their birth. Human beings either enter culture or culture enters them (i.e., J. Carpay calls this *enculturation* vs. *inculturation*); or, in yet another scenario, human beings might remain outside of culture or even destroy it. Human history knows too many examples of how humans have destroyed culture (e.g., the Bolsheviks in Russia). It should also be noted that another way to destroy culture is not to participate in it.

Culture is not just an environment that provides food and shelter for human beings. Culture is not a driving force of human development, nor does it determine this development. As M. K. Mamardashvili [Russian-Georgian philosopher; 1930-1990] noted, culture consists of a human being's effort to be human. According to a metaphor of O. Mandel'shtam [Russian poet; 1891-1938], culture can be viewed as an "inviting force," or a challenge, rather than merely a familiar surrounding. Culture often engulfs a person, though it can push a person away. A human being is free to accept or reject the invitation, the challenge. The challenge consists in the "difference of potential" that exists between ideal and real forms. If the person accepts the challenge, then she or he masters and appropriates ideal forms and may even transcend them. In this process, these ideal forms turn into personal/individual real forms. The latter, in their turn, can and should be able to generate new ideal forms ("monuments to the human spirit"), which contribute to the whole "body" of ideal forms. In the absence of this dynamism, the development of culture itself would stop.

The fact that subjective-meaningful formations are objectivized in the "body" of ideal forms is an assumption that certainly could not be accepted by classical psychology, where the term "objective" is presumed to be equivalent to "material." It is not obvious, however, that this non-classical turn of Vygotsky's psychology is sufficient to overcome this central problem (for both psychology and philosophy) of how an objective entity can be transformed into a subjective one. One hardly needs to explain that this problem was not (and, obviously, cannot) be resolved by "classical" psychology (cf. V. P. Zinchenko & Mamardashvili, 1997; Mamardashvili, 1984). If we accept D. B. El'konin's idea that Vygotsky's psychology is of a non-classical kind, we would still need to continue the line of thinking that he started. In doing this, we would need to remove the opposition between objective and subjective dimensions not only in epistemology, but also in the ontology of human life. Let us try to pursue this line of thinking.

As a first step, we should realize that the ideal form in which affective-meaningful formations exist can represent an objective entity. Following Vygotsky's tradition, let us address the realm of art. Vassili Kandinsky [Russian painter; 1866-1944], Vygotsky's contemporary, wrote:

A true work of art comes into being in a mysterious, enigmatic, mystical way, "from an artist." Having separated itself from the artist, it acquires its independent life . . . and becomes a self-standing, spiritually-breathing subject that lives its real material life; it becomes a creature. Thus, it is not a phenomenon that has emerged incidentally, and now exists indifferently in spiritual life: Like every living creature it continues to emanate a creative energy. It lives, acts, and participates in the creation of a spiritual atmosphere. (1992, p. 99)

From this perspective, works of art should possess some energetic properties. V. I. Ivanov [Russian writer; 1866-1949] did not doubt this when he wrote:

The energy whose name is Art appears to us either as an assembled and crystallized entity that has stable objectivized forms which we perceive aesthetically, as if we melt and build them again in our consciousness; or as something that flows and develops before our eyes and objectivizes itself for the first time in our perception. Architecture represents the static pole of art, and music represents the dynamic pole. (1974, p. 92)

Further, V. I. Ivanov notes that music also has static elements, whereas architecture, similarly, has dynamic ones. I cannot resist the pleasure of providing another wonderful quote from V. I. Ivanov (1974) that describes how alive works of art are:

The Madonna moves. The pleats of her clothes reveal the rhythm of her steps. We accompany her in the clouds. The sphere that surrounds her accumulates active life: The air is filled with appearances of angels. Everything lives and lifts her up; the harmony of heavenly forces is before us and the Madonna herself is in it like a moving melody. In her arms she holds the Infant, whose look, decisive, and full of will is directed toward the world; she gives to the world this Infant, or rather the Infant himself draws his and her flesh into the world . . . (p. 92)

There is no doubt that the author of *The Psychology of Art* not only acknowledged this aspect of art, but also felt it. During the Silver Age of Russian culture (i.e., the early twentieth century), such ideas were in the air (cf. V. P. Zinchenko, 1991a, 1993). It is useful to understand Kandinsky's and Ivanov's words not as mere metaphors, but rather as a true description of reality. Recalling one's own experiences in perceiving works of art and in engaging in dialogue with art can help with such an understanding.

Now let me descend from the heights of art down to more earthly matters. Artifacts and tools are also alive because they entail creative efforts together with the soul of their creator. P. A. Florensky [Russian religious philosopher who died in Stalin's Gulag; 1882-1937] developed similar ideas and used many examples to show that tools of labor are created in the image of humans (following the metaphor of human beings being created in the image of God), with human qualities being embodied or reified in tools. The living properties of a tool are amplified by the fact that humans name tools with proper names. In other words, tools not only have a practical purpose, but also a meaning. In his work *Tool and Sign*, Vygotsky abandoned the sharp opposition between tools and signs that had been characteristic of the earlier stages of his work. In this later work, Vygotsky paid special attention to how *instruments and signs are internally interrelated*, as reflected materially and symbolically in the very first instruments of human labor (Vygotsky, 1982a, 1982b, p. 84). Vygotsky's analysis remains quite instructive today in understanding how people work with such modern tools as computers.

Therefore, within the relationship between culture and the individual, the affective-meaningful and sign-symbolic formations exist within certain poles of Culture. They represent ideal forms that are equally objective and subjective (i.e., personalized) not only in their origin, but also in the way they exist and function. These ideal forms are viewed as equal partners in cultural and material production, and they feed this production with ideas and energy. Ironically, Soviet science ignored a very precise characterization of life offered by A. A. Ukhtomsky [Vygotsky's contemporary who, like N. A. Bernstein, developed a non-classical physiology called "physiology of activity;" 1875-1942]. Ukhtomsky asserted that:

Life is an asymmetry that constantly vacillates on a sword's edge and retains a more or less balanced state only by being in constant motion. An energetic chemical substance poses the following dilemma for a living being: to pause in order to accumulate this substance would mean dying; to instantaneously and actively use it means to incorporate this chemical energy into the circulation of life, into the construction and synthesis, into life itself. (Ukhtomsky, 1978, p. 235)

To see how powerful this characterization is, we can replace the term "chemical agent" with "information," or even better, with "knowledge" or "experience." If we do so, we come up with a statement that characterizes life as a dynamic process that constantly vacillates "on the sword's edge" between idea and action, consciousness and activity, experience and implementation, affect and intelligence (see Zinchenko, 1995a).

Now we turn to the pole of the relationship between culture and the individual. Ukhtomsky wrote that subjective entities are no less objective than the so-called objective ones. This was not an ungrounded assertion. After all, Ukhtomsky studied "the anatomy and physiology of the human Spirit." He wrote, for example, that "from the very start, the image of an object exists as some heuristic project of reality that is subjected to repeated testing and re-construction on the basis of practical encounters with reality" (Ukhtomsky, 1978, p. 274).

In this connection, it is worth carefully reading Vygotsky's conceptualization of how such *heuristic projects of reality* arise:

It is the workings of symbolic operations that allows for a completely novel type of psychological field to emerge; such a field is uniquely new because it does not rely on what already exists, but instead makes a sketch of the future, and in doing so, creates free action that is independent of the immediate situation. (Vygotsky, 1984, p. 50)

Around the same time, M. M. Bakhtin (1895-1975) was characterizing the world of action as a world of internally anticipating the future.

I should remind the reader that it was only several decades later that psychologists and physiologists developed constructs such as "image of anticipated future," "acceptor of action outcome," "operative image," "image-manipulator," "sensory standard," "perceptual model," and so on. The core idea behind all of these concepts is that in order for a plan to be realized and for a perceptual hypothesis to be verified, an image of reality must be objective, that is, it must be located within this reality.

FUNCTIONAL ORGANS

Ukhtomsky believed that subjective, mental entities are objectivized in the "body" of the functional organs of an individual (i.e., virtual organs such as particular skills, as opposed to morphological organs such as an arm). These functional organs are just as real as the usual morphological ones. Ukhtomsky (1978) defined functional organs as "any temporary combination of forces that are capable of achieving a specific outcome," (p. 95) or as activities distributed in time and space. He wrote that an individual's functional organ is similar to a dynamic mobile agent. As examples of functional organs Ukhtomsky mentioned psychological phenomena, such as memories of the past, intentions, and an integral view of the world. He emphasized that these are novel formations [*novooobrazovaniya*], which arise when individuals interact with the environment, in their activity, as they actively come forward to meet the demands of their environment. According to this definition, an image should possess a certain *force*. This statement becomes obvious if we consider certain types of functional organs, such as living motion (N. A. Bernstein), affect (A. V. Zaporozhets), all of which obviously contain energetic properties.

Scholars such as N. A. Bernstein, A. V. Zaporozhets, A. N. Leont'ev, and A. R. Luria broadly used and developed the concept of functional organs, or an individual's novel formations. They believed that an individual's functional organs have certain bodily properties, for example, they have a biodynamic sensuous affective "tissue." Functional organs or psychological functional systems should be viewed as matter (tissue) that eventually constitutes the spiritual organism, the anatomy and physiology of the human spirit itself. I would like to note that the term *organic* psychology could be viewed as a derivative of the concept of a *functional organ*. This is one more argument (though an extended one) in supporting the acknowledgment of organic aspects of cultural-historical psychology. In Vygotsky's writings, the term *psychological functional system* is analogous to the notion of *functional organ*.

IDEAL AND REAL FORMS

The issues outlined above give some basis for abandoning sharp distinctions between ideal and real forms along the lines of objective-subjective, external-internal, or body-soul. Both types of forms are objective and subjective at the same time, though to different degrees. This view allows for a more precise formulation of the question as to how one form can be transformed into another. It is here that D. B. El'konin saw the non-classicism in Vygotsky's approach. By formulating issues as he did, Vygotsky succeeded in removing the psychophysical problem that had not and could not be resolved directly. Ideal and real forms are living forms. They are potentially and actually compatible because they possess common properties. Therefore, the notion of *organic psychology* seems most fitting to characterize Vygotsky's *non-classical* approach. Alexander Luria sometimes referred to Vygotsky's psychology as a "romantic science." It is a surprising and delightful fact that organic psychology was created in an environment that was *inorganic* for any scientific development. A. M. Pyatigorsky characterized the times in which Vygotsky lived in as "a bad season for thinking;" nevertheless, ideas were born during those times, including ideas "not in season."

No matter how compatible real and ideal forms might be, they cannot be "automatically" transformed into one another. Hence, the problem of transition between real and ideal forms remains and will be addressed below.

Ideal forms possess some characteristics that play a mediating role in the development of real forms. Three such mediators were discussed by Vygotsky: a) the *adult* (as a partner in inter-individual activity); b) the *sign*; and c) the *word*. Mediators such as *symbols* and *myths*, whose role in development was pointed out by A. F. Losev [Russian linguist, semiotician and philosopher; 1893-1988], remained outside of Vygotsky's framework, even though Vygotsky often spoke of symbolic and sign-symbolic activity. *Sense* [*smysl*] should also be added to this series of mediators. G. G. Spët [1878-1940] believed that sense originates in being [*bytie*]. In other words, sense can be considered as something objective—just as the sign, symbol, and other mediators; however, this list of mediators should be left open. "Polyphony" [multivocality] in consciousness corresponds to a "polyphony" in mediators. A polyphonic [multivocal, heteroglossic] consciousness cannot be based within signs or sign-related actions alone.

In the development of symbolic activity, human subjects appropriate mediators, and the result is that their real ("natural" in Vygotsky's terminology) form becomes an ideal or at least idealized, cultural form.

Mediation constitutes the very core of cultural-historical psychology. Mediational acts (now being intensively studied by B. D. El'konin and his colleagues) contain the secret of development, the secret of how real forms are transformed into ideal ones, and vice versa. When objects, tools, and signs are incorporated into natural psychological forms (to retain Vygotsky's term, which he was repeatedly criticized for), the latter are transformed into ideal, cultural ones. These forms then acquire an object, tool, sign, word, or symbol—related to the instrumental, mental capacity of operations, actions, and activity in a broader sense.

What does the concept of *transformation* actually mean? Transformation is the process in which novel functional organs are constructed. This process is performed by means of mediators that Vygotsky called "psychological tools," or "psychological instruments." To be more exact, Vygotsky (1982b) distinguished between material and psychological instruments, and it is quite possible that he did this in an intentional and categorical way:

A sign is essentially distinguished from a tool by the fact . . . that it is directed differently. A tool mediates an individual's actions with objects, that is, it is directed outwardly. It serves the purpose of changing the object; it serves as a means for the individual's external activity aimed at mastering nature. A sign does not change anything in the object of the operation. Instead, it represents a means to influence one's own or another person's behavior; a means of internal activity that is aimed at self-mastery and self-regulation; thus, a sign is directed inwardly. Both kinds of activity are so different that the means applied within them cannot be of the same nature. (Vygotsky, p. 90)

These characteristics relate not only to signs, but also to symbols and words. Vygotsky wrote: "The word directed at resolving a problem relates not only to the objects present in the outer world, but also to the child's own behavior, the child's actions and intentions. By means of speech, children become able for the first time to turn to themselves and regard themselves objectively . . . as if from a distance" (B. D. El'konin, 1994). It is here that psychological tools, whether signs, words, or symbols, reveal a remarkable feature. They act not only as stimuli that can cause particular responses, reactions, or behavioral acts; they also evoke or give rise to various internal forms of activity, which among other things makes external behavior unpredictable. When human subjects turn to themselves, and look at themselves, as if from a distance, their ability to look inside themselves also begins to take form. Through this process, human subjects begin to establish self-images by externalizing them. This process of objectivizing oneself, together with one's own subjectivity, is the formation of self-consciousness.

Vygotsky argued that a sign's central characteristics are the following: a) the sign is directed from the outside inward, and b) it is related to processes in which the internal plane is subjected to reconstruction, objectivation, and externalization. Vygotsky (1982b) wrote:

If we think about the fact that by tying a "knot for memory" [the Russian practice of tying a knot on a handkerchief as a mnemonic aid, used as a reminder-analogous to the Western practice of tying a string around one's finger], we see that a person can actually control his memory processes from the outside . . . An individual reminds him or herself

through an external object and, thereby, as it were, moves the process of memory outwards, transforms it into external activity

... this single fact can show us how deeply unique higher forms of behavior are. In one case something is remembered, in another case a person remembers something . . . (pp. 14-15)

Signs act at an even deeper level, and in Vygotsky's words:

When one studies mediated memory, that is, how people memorize based on familiar signs or aids, one can see how memory changes its place in the system of mental processes. The objects memorized directly by immediate forms of memory, in mediated memory are memorized by means of performing a series of mental operations that may have nothing in common with memory; hence, certain mental processes are substituted by others. (Vygotsky, 1982a, p. 392)

Such examples are numerous in A. N. Leont'ev's early work on memory development, and also in P. I. Zinchenko's [father of V. P. Zinchenko] writings on the dynamics of involuntary and intentional/voluntary memory (P. I. Zinchenko, 1961).

What, then, are the properties of signs, words, and other mediators that are not simply perceived, appropriated, and remembered, but also call to life dormant mental operations or facilitate the formation of new ones? Are these operations themselves and their interrelations being reconstructed along the way? Although this is not an easy question to answer, let us give it a try. Difficulties arise here not because of a lack of facts, but because of an abundance of facts. Let us turn again to the issues of memory. In 1939, P. I. Zinchenko interpreted the idea that memory is mediated in the following way:

... the main characteristic of human memory development is the appropriation of different ways in which symbolic mnemonic means (or aids) are used. Such symbolic means, however, if viewed in terms of their internal, concretely-psychological facet, are meanings. Meanings are nothing other than the generalization of reality. As these meaning-generalizations develop, the links and relations that are integrated in a sign (most often, in words) also develop, as well as the structure of this generalization, and the respective intellectual operations. In other words, the appropriation of symbolic means is linked to the development of their internal aspect, that is, of generalization. Therefore, memory development is primarily determined by the development of thinking, because development of any meaning-generalization implies the development of thinking. Based upon these general premises, the act of remembering is viewed, for the first time in psychology, not as the content of consciousness confined within the individual as representing her or his phenomenal subjective world, and not as some abstract metaphysical ability. Instead, for the first time, remembering begins to be viewed as an active process, as a concrete mental *action*. Therefore, for the first time, an opportunity arises to explore the development of memory as a process, that is, to explore the processes of remembering at different stages of their development. (P. I. Zinchenko, 1939, p. 153)

I would like to draw attention to the words *for the first time*, something that is repeated in his quote. According to P. I. Zinchenko, a theory of mediation made it possible *for the first*

time to investigate memory as a *mental action* and explore the development of memory as a *process*. Here, the genetic, organic link between cultural-historical psychology and Russian activity theory, which was then in its earliest stages of development, becomes evident. Activity theory abandoned studies of natural psychological functions, which was at the focus of classical research in psychology, favoring the study of mediated, that is cultural, actions. I think that the quote from P. I. Zinchenko's work, written in 1936-1937, provides a strong argument against the repeated attempts to cut the ties between the two schools of thought in order to draw a contrast between them. In this connection, P. I. Zinchenko later cited one rather categorical statement from Vygotsky himself dating from 1926:

... memory entails the use of and the active engagement of past experiences in present behavior; from this point of view, memory is, in fact, activity in the exact sense of this word at the moment when something is both memorized and remembered. (P. I. Zinchenko, 1939, p. 117)

P. I. Zinchenko was A. N. Leont'ev's disciple, who actively participated in the so-called "*activity campaign* of Leont'ev" in psychology. To be honest, one should say that this was also a "campaign" against cultural-historical psychology. P. I. Zinchenko (1939), certainly with support from Leont'ev, wrote that cultural-historical psychology was a mistake on the whole:

The basic issue of how to understand the nature of the mental act has been resolved in the wrong way. It was assumed that the specific and most essential feature that characterizes the human mind is the *appropriation* of the natural, biological mind through the use of psychological means. This claim contains the main mistake of Vygotsky's doctrine. The Marxist understanding of the historical, social determination of human mental development was perverted and understood idealistically. The social-historical determination of the human mind was reduced to the impact of culture on humans. Psychological development thus came to be regarded not as being determined by the development of an individual's real engagement with reality, but merely by communication between an individual's consciousness, and the cultural, ideal reality. (P. I. Zinchenko, p.117)

This criticism can be seen as indiscriminate and unjust if one considers that Vygotsky had actually answered this criticism, and had done so before the criticism itself was raised. His answer can be found in his following words: "What lies behind all higher functions and their relations are social relations, real relations among people" (Vygotsky, 1982b, p. 145). However, the fact is that Vygotsky's answer was first published a quarter of a century after P. I. Zinchenko wrote his paper.

For those times, such criticism could be considered soft when compared to the unbridled criticisms and denunciations directed at Vygotsky during his lifetime. One should take into account that at the time when P. I. Zinchenko wrote and published his article, Vygotsky's works had already been banned. Indeed, only a small part of Vygotsky's entire works was published during his lifetime. Only P. Ya. Gal'perin and D. B. El'konin had the chance to live long enough to see the publication of Vygotsky's collected works in six volumes (a collection that is still incomplete). It was not the fate of Zaporozhets and Luria to see the publication of Vygotsky's works completed, even though it was because of their efforts that this publication

was made possible. Many of Vygotsky's subsequent critics paid attention only to the critical edge of P. I. Zinchenko's words and missed something much more important. To be sure, from our perspective of today, we see that P. I. Zinchenko presented the main strength of cultural-historical psychology as its main weakness. However, attention should be drawn to the fact that a noticeable change was in store—if not in research, then, at least, in its emphasis. This change had to do with a shift from the internal aspects of psychological instruments, namely meanings, to mediated mental action. In the 1930s, participants of the Khar'kov Group (which only much later came to be referred to as a *school*) started to study various forms of "mental actions," such as elementary tool-related actions in children (Gal'perin), sensory actions (Zaporozhets), memory actions (P. I. Zinchenko), and intellectual actions (Zaporozhets). A genuine *activity approach* to the human mind started to emerge, and later developed into activity theory. Meaning, which Vygotsky regarded as the initial unit of analysis, was relegated to second or third place in importance (V. P. Zinchenko, 1981). Meaning was too closely connected to culture, ideal activity, and consciousness, all of which had fallen out of fashion during the Soviet period.

In Soviet and Russian literature, regarding the history of psychology, two different kinds of criticisms coexist in a strange way: a) Vygotsky is blamed for idealism, and b) A. N. Leont'ev is blamed for deviations from Vygotsky, that is, deviations from idealism. G. P. Shchedrovitskii (1995) suggested a methodologically substantiated account of the collision between cultural-historical and activity-oriented psychological concepts. This issue represents a peculiar story for historians of psychology and awaits further analysis.

Generally, with regard to criticisms of Vygotsky, it should be noted that almost all such criticisms published before 1984, that is, before a relatively complete collection of his works had been published, in fact represented a *misunderstanding* from a historical point of view. Authors of such criticisms simply could not have read a large number of Vygotsky's fundamental works, such as *The Historical Meaning of the Crisis in Psychology, Tool and Sign in the Child's Development, Teaching about Emotions*, and many others. The authors of such criticisms should not be blamed for their positions except for cases when today they continue to insist on their outdated views.

INTERNAL FORMS OF SIGNS AND WORDS

I will now turn to Vygotsky's ideas on the internal aspect of words or signs. In what follows, I shall not speak of the internal aspect, but of internal forms of words. Thus far, we have stated that psychological instruments have an external and an internal form. Most often the external form appears to be quite simple, yet it is difficult to grasp if the corresponding internal form is unknown. One should not be misled by the expression "internal form." In reality, this form is invisible like the dark side of the moon. Vygotsky used this metaphor when he spoke of this aspect of the word, which remained *terra incognita* for experimental psychology. Vygotsky himself did not use the notion of a word's internal form, although von Humboldt (1767-1835) had introduced it earlier. The reason for this is hard to understand since Vygotsky certainly knew of G. G. Spët's book *The Internal Form of the Word* (1927). Perhaps Vygotsky was trying to avoid confusion between the concepts of the "word's internal form" and "internal speech." The latter concept, as is well known, was at the focus of his research. As Vygotsky's, and especially Spët's works show, the internal form of such a

psychological instrument as *word* is extremely rich. Symbols in particular allow an infinite variety of interpretations. The problem consists in one's ability to discover, to see the symbol's internal form, to penetrate beyond the symbol's external envelope.

In Mamardashvili's words, a symbol's material side is visible to all, whereas its second, invisible side grows into the depths of conscious life. Florensky also wrote about this: "Upon penetrating into a symbol we find ourselves, and while trying to penetrate into ourselves—we thereby discover symbols" (Florensky, 1992, p.174). This process often occurs independently of a person's wishes or will. Often enough the symbol masters the individual, instead of an individual mastering a symbol. In the latter example, a symbol ceases to be a person's instrument; instead, a person becomes a tool for the symbol, a "human tool" (term from Daniel Andreyev [Russian philosopher; 1906-1959]). A similar transformation occurs in language as well. Joseph Brodsky [a contemporary Russian poet; 1940-1996] insisted that language is not the poet's instrument, but rather that the poet is the instrument and the means of existence for language.

The discovery of internal forms of mediational means begins in childhood, in joint activity of a child with adults, and this process continues throughout one's whole life. During Vygotsky's time, psychology only started to approach the issue of how psychological tools or mediators work. Vygotsky (1984) warned against simplified explanations of how signs are related to meanings:

To place the appropriation of the relation between sign and meaning at the very beginning of the child's development is to ignore the complex process of the internal history of how this relation is formed—a history which lasts more than a whole decade. (p. 15)

After a long interval this research has now been resumed by B. D. El'konin (1994).

From what was already stated above about psychological instruments, it can be inferred that they are inherently, organically compatible with both ideal and real forms. These instruments entail both objective and subjective components. Psychological instruments can perform a mediating function between real and ideal forms because they are profoundly similar. Psychological instruments (or psychological means, tools) are often equated with human organs, i.e., organs of human activity. And because they represent artificial means of activity, they are often referred to as "artifacts" (Wertsch, 1991). Psychological instruments are also referred to as an individual's "functional organs," and this sometimes causes misunderstandings. However, the fact that these terms are so interchangeable emphasizes that psychological instruments and ideal forms, on the one hand, and real forms, on the other, are potentially compatible and organically linked. Psychological instruments like words, signs, and symbols are living, active forms, and like all living entities they are mortal. Indeed, dead symbols, dead words, and even dead languages are known to exist. In addition, mediational forms are heterogeneous. This line of reasoning closely corresponds to Vygotsky's ideas about *units of analysis* in psychology. Such units are living, integrated, as well as heterogeneous formations (see V. Zinchenko, 1985; Zinchenko & Smirnov, 1983).

INTERNALIZATION AND EXTERNALIZATION

Today, psychological instruments, and the way they work are often described in terms of appropriation, mastery, and internalization, all of which represent a simplified approach. It is difficult to reduce so-called internal activity to operations and manipulations through internalized means that have been previously external. I shall discuss this issue below. To show how complex the appropriation of psychological instruments is, including the role they play in the formation and development of psychological operations, mental actions, and novel functional organs, let us turn to some apparently simple examples. Namely, let us consider how the appropriation of movement occurs.

N. A. Bernstein wrote that when we learn a particular skill, we identify “what the movements comprising the skill to be learned will *look like* from the outside” (Bernstein, 1990, p. 172). Zaporozhets later noticed that a movement could be viewed as an external object and even an external subject/actor. This interesting conceptual understanding points to the fact that movements can become objective and even personalized. How is this achieved? Bernstein (1990) conceptually differentiated a certain stage in the process of learning, where individuals “come to understand how the movements, as well as the sensory connections that control them, should be sensed from within” (p.172). Furthermore, he writes that this understanding is not merely gained from observation of movements. Moreover, it cannot be represented by signs or described by words.

What does “sensation from within” mean? An answer can be found in the research conducted by M. I. Lissina [1929-1980] who followed A. V. Zaporozhets’s ideas. The idea was to show that “an essential factor in turning one’s involuntary reactions into voluntary ones is the sensation of internal impulses resulting from these reactions” (Zaporozhets, 1960, p. 80). This claim was supported in a series of experiments, in which individuals learned to sense and control their vascular reactions that are typically performed without an individual’s awareness. Lissina’s method was to provide her participants with additional overt information about their vascular reactions as they learned a new movement. This additional information was given in the form of visual recordings and representations of vascular reactions on a special device (similar to a lie detector machine). This visual representation in essence had the function of a psychological instrument. Based on this representation, the participants learned to sense their reactions and to objectify them by establishing a correspondence between their sensations and the external recording of their reactions. As A. V. Zaporozhets (1960) concluded from this research: “A sensation from a movement is not only a necessary component of a movement but it is also its precondition. The movement must become *sensed* before it can be transformed into a voluntary and controlled one” (p. 88). This research was conducted in line with Bernstein’s and Vygotsky’s ideas, with these two scholars undoubtedly sharing the very fundamentals of their approaches (V. P. Zinchenko & Lebedinsky, 1981). For example, Vygotsky wrote: “awareness and self-control go hand-in-hand . . . To become aware of something means to a certain extent to master it” (Vygotsky, 1983, p. 251). What actually occurred in Lissina’s experiments is that the participants learned the “sensation from within” and this formed the basis for them to become aware of their vascular reactions and thus be in control of them. This occurred due to the symbolic function of such psychological instruments as a pictorial representation of vascular reactions, whereby the participants gained the ability to sense the movement from within, and hence, developed a new functional organ.

Indeed, movement that is visible from the outside and is sensed from within is no longer simply a movement. Instead, it is a dynamic and meaningful image. Similar findings were obtained, for example, in experiments by A. N. Leont’ev, V. I. Asnin, and A. V. Zaporozhets on how the ability to sense and distinguish colors based on skin sensation emerged (e.g., Leont’ev, 1983a, pp. 143-183).

From the point of view of cultural-historical theory, these studies may seem exotic (after all, they were based on psychophysiological data), yet these studies demonstrate how important the mediation mechanism is for the emergence of new functional organs. These experiments also show that mediational means, or psychological instruments, do not *grow into* anything. In actuality, they allow for objectification, or externalization of particular subjective sensations and affective-meaningful formations. The latter, being *brought to the outside*, keep their subjectivity while at the same time they acquire a certain character of objectivity. Once formed, they can later be reproduced even in the absence of mediational means.

Based on these examples, we may conclude that there is nothing mysterious about mediational means. Their meaning becomes evident to individuals, or rather, is constructed by them only as they perform a series of successful and unsuccessful actions, and in the process fill these mediational means with biodynamic, sensuous, affective qualities (and even tissue) that have their own subjectivity.

Ironically, this research—conducted in precise conformity with the tenets of cultural-historical psychology, that is, using a *causal-genetic method*,—was then interpreted from the perspective of activity theory. We may assume that Vygotsky himself would have preferred to interpret the results as we have done here, that is, from the point of view of how meaning is discovered and formed. Thus, according to Vygotsky (1983), “as a result of all these changes, the new memory function (an internally mediated process) resembles elementary memory processes in name only” (p. 16). From this it appears that for Vygotsky the process of *ingrowth* or *rooting* was no more than a metaphorical expression that he used in an attempt to capture the complex process of generating *new formations*, *new psychological functional systems*, or *functional organs*.

As long as we are bound to a naturalistic understanding of what the internal is (that is akin to the Freudian naturalistic understanding of the unconscious), internalization will continue to be viewed as *growing into* emptiness, into *nowhere*. Leont’ev was aware of the flaws of such a naturalistic interpretation, and in his later work he insisted that in the processes of internalization the internal plane is born, that is, it emerges for the first time. However, Leont’ev did not study this process. Nonetheless, what he said is sufficient to conclude that internalization involves simultaneous *growing in* and *growing out*. In other words, internalization should not be taken to mean that activity is plunged into some “depths” of the internal plane. Internalization should not be likened to the Freudian mechanism of repressing memories into the unconscious.

A naturalistic interpretation of internalization delayed research into object-related activity and object-related actions as such. Fortunately, Bernstein understood object-related action not as something given but as something to be created. As for psychologists, they regarded object-related actions not so much as a foundation for higher mental functions, but as a “springboard” that merely facilitates the development of perception, memory, thinking, emotions, and so on. Although Zaporozhets, Leont’ev, and Rubinstein claimed that movements and object-related actions are as worthy of psychological exploration as

perception, memory, and thinking are, they nevertheless focused on higher mental functions, to the exclusion of actions. Gal'perin's first remarkable studies were devoted to children's object-related actions. Later, however, he abandoned this issue and turned to research on mental action. Perhaps it was only Zaporozhets who took the opposite course. Having started with research into sensory and mental actions, he later turned to their foundations—to voluntary movements and actions.

Orientation, memorization, decision-making and the like happened to be viewed as representing a higher level, whereas execution and performance were reduced to elementary, lower, even primitive processes. Naturally, everybody wanted to do research at the higher levels and abandon the "lower" ones as quickly as possible. Many did so in their pursuit of the theory of internalization, according to which practical actions connect with concrete, rough, visible objects *growing into* a subtle ideal matter, and are then transferred into an internal plane. This view was partly inspired by Vygotsky's division of mental processes into natural and cultural, or lower and higher ones. What was ignored in this approach was that Vygotsky viewed movement exactly as a higher process, similar to the process of perception, memory, and attention, and he also linked movement to the development of symbolic activity (Vygotsky, 1984, p. 54).

Such a naturalistic understanding of internalization may seem indisputable, self-evident, and empirically justified. Indeed, the child first counts sticks with his/her fingers, then in external speech, with the help of eye movements, then in internal speech, and finally, on the mental plane. This looks so clear that experimental research may seem unnecessary. Incidentally, this research not only exposed amazingly interesting details about teaching and learning, but also revealed the remarkable objectivity (or object-relatedness) of higher psychological processes—objectivity that is retained even as these processes become autonomous from material, object-related actions.

With regard to internalization, the crux of the matter is that in order for a process to grow, and for it to be able to then generate anything new, this process must first exist and go through certain transformations.

A simple motor response to a stimulus is also an object-related action. Such a response can be repeated indefinitely, but it will never generate anything new and it will not *grow into* anything either. This motor response is simply performed or not performed. Similarly, more complex forms of object-related action are not internalized; they continue to exist, and in this existence they can be infinitely elaborated; or, on the contrary, they can be destroyed if they are not put to use. It is certainly true that object-related activity and object-related actions form the basis for the development of higher mental functions. The founders of Russian activity theory and their followers were quite right about this. However, we shall deal with this later, as we now return to Vygotsky's line of reasoning.

HISTORICAL THOUGHTS RELATED TO SOVIET PSYCHOLOGY

Let us start with the initial point in Vygotsky's thinking. According to him, mental processes are born twice. Note: *born!*—first in joint activity and then as an activity of an individual. The development goes from inter-individual to intra-individual activity. One human being shares his or her object-related activity and mediational means with another. This is the precise meaning of internalization according to Vygotsky. Nothing mysterious is

involved in this process. Rather, we are dealing here with a very real transfer of activity, and the *second* (not first) *birth* (not internalization) of higher mental functions. What Vygotsky saw as "a birth," Gal'perin saw as a result of internalization. In Gal'perin's conceptual framework, the transfer of object-related activity and the first birth of higher mental functions, as well as of object-related activity itself, have been left out of the picture. He eliminated the intermediary link—the adult—the link that was present in Vygotsky's conceptualizations and to which D. B. El'konin, V. Davydov, V. Rubtsov, and B. D. El'konin later returned. Gal'perin studied internalization of a second order, and this does not at all diminish his contribution to research into the processes of formation of mental actions. But do we need to create this second order?

It is not the fault but the misfortune of Soviet psychology that the concept of "object-related activity" has never been theoretically developed. Pyatigorsky has recently drawn attention to this fact. This task was tackled by E. Ilyenkov [Russian philosopher; 1924-1979], V. Davydov [1930-1998], and E. Yudin [1930-1976]. Yet, the philosophical concept of object-related activity, as well as the concepts of external and internal, remain to be implemented in psychology in a quite naturalistic manner. Indeed, why did psychologists (including S. L. Rubinstein [1889-1960] and Leont'ev) prefer concepts such as "object-related activity," "object-practical activity," "object-sensuous activity," to that of "spiritual/mental-practical activity," which would be in line with Hegelian and Marxist philosophy? The answer to this rhetorical question is quite clear from a sociological perspective. These psychologists simply had no choice. In the hostile Soviet ideological climate, the issues of spirituality (i.e., immaterial aspects of reality) were not on the agenda. Instead, practice was placed at the center of everything and was regarded as the origin of knowledge, as the criterion of truth, and as the highest value. During those times, to even introduce the concept of object-related activity was nearly a heroic deed, a kind of a challenge to society, a protest against the epoch that entailed a bizarre combination of slavery and empty activism on the one hand, and true enthusiasm and creativity on the other. This concept, however, lost many of its important spiritual/mental, and ideal dimensions. The "soul" of objects of activity was lost, as well as the symbolic functions enshrined in them in the process of their creation. Even works of art had to meet the criteria of socialist realism and other ideological requirements. As a result, activity had to be characterized not in spiritual/mental, but in material terms. Gal'perin often used the term "materialized activity." Note the irony in this expression: Obviously only something immaterial, that is, ideal or spiritual, can be materialized. Perhaps, it was intentional that Gal'perin (with irony so typical of him) used this expression to at least hint that there existed some ideal, spiritual/mental dimensions of activity awaiting materialization.

The Soviet dialectical approach was very convenient for pursuing this agenda. It allowed for the development of mind, consciousness, and personality, all with some *a priori* characteristics. It allowed for a transformation of matter into consciousness without *consciousness*. This simple and clear "science" pretended to have found solutions to all the mysteries of the world; for example, regarding what mind and consciousness are and how they emerge from inanimate matter, from a "materialized form of object-related activity."

All that I have said about this Soviet science should not be seen as a criticism. This is rather the work of my understanding colored by my personal feelings and emotions regarding people who are dear and close to me. This is a reflection upon my own recent views that I have held for so long.

Return to Internalization/Externalization

Returning to object-related activity, if we assume from the very beginning that *material* is as much ideal as it is material, as much object-related as it is mental (and even spiritual/mental); and if we assume that movement lives not only in its external form, but also in its internal form; and, if we admit that object-related action is not only mediated by external instruments or semiotic means, but also contains within itself, in its internal form, an image, purpose, intention, motive, word; and, ultimately, if we assume that the object-related activity is itself a kind of ideal form—then in this case, the concept of internalization will become unnecessary for theoretical psychology. One should not, however, be too zealous in rejecting this concept even though it is already beginning to be replaced with the concept of *differentiation* of movement, object-related (or joint) action, and object-related (or social) activity (see Gordeyeva, 1995; Zinchenko, 1995a). In such differentiation, the germ cells of mental formations that are present from the start in object-related activity are not internalized to anywhere; but, on the contrary, are objectivized and externalized; that is, they grow outward and become independent of object-related activity.

Human sensuousness as object-practical activity is contradictory by its very nature. Sensation and perception themselves reflect a given reality. However, another content—internal and external, immediate and mediated, particular and universal—permeates human sensuousness as a result of performing practical action that juxtaposes things, in a purposeful way . . . It is here that these elements come together to form a unity. (Rubinstein, 1946, p. 284)

Thus, one should not focus so much on reducing activity to its components, but focus on how the external forms are elaborated and how internal forms of activity and its constitutive actions are developed. It is important to note that internal forms represent the realm of the subjective, and yet they resist being described as internal. This is like the situation with a myriad of emotions and feelings, shades of color, smells, and so on, which are so hard to conceptualize. Such things can be conceptualized only after they have been objectivized, externalized.

Such an interpretation sits well with Vygotsky's assumption that through the use of mediators, higher mental processes are brought outwards, transformed into external activity, and that a person's behavior is transformed into an object that can then be mastered. Vygotsky's idea that signs move from the inside outwards should not be taken literally. It is just such literal interpretations that gave rise to the commonly accepted notion of internalization. However, the core of Vygotsky's view is that by means of signs, the mental functions are brought outwards, are objectivized, and transformed into external (more exactly, into observable) actions and activities.

Thus, the transition from the inter-individual (shared) object-related action to intra-individual (personal) does not mean that action is internalized. What is central in this process is the emergence of an independent action—nothing above or beyond this. If one were to follow the logic of internalization/externalization, then the sequence of these two processes should be reversed. Namely, in the beginning there is simply nothing to internalize. It is only after higher mental functions are objectivized, exteriorized, and emancipated from object-

related activity that they can return to where they belong, while at the same time always keeping the vestiges of the initial activity.

Ideally, thought, consciousness, and spirit return to an object-related activity in a more elaborated and more developed form. However (if we forget about the logic of internalization/externalization) when returning to object-related activity, these processes raise (or, in other cases, reduce) the activity to their own level, transforming activity into a spiritual/mental-practical one; or, on the contrary, reduce it to a biological act.

In essence, my argument has been the following: External (object-related) and internal (mental) activities are equally psychological, equally related to objects, equally ideal and cultural, equally deserving of psychological scrutiny. The differences that exist between them can in no way be related to the philosophical problems of what is primary and secondary, or to the fundamental problem of the origins of mind. Vygotsky (1983) was aware of this understanding:

We also know that both types of activity—thinking and real action—are not separated from each other by an impassable gap; actually, in reality, at each and every step, we observe how thought is transformed into action and action is transformed into thought. Hence, both of these dynamic systems—the more dynamic one related to thinking, and the less dynamic one related to action—are not isolated from each other. In actuality, the transition of the fluid dynamics of thought into the more rigid, solid dynamics of action and vice versa . . . should and actually occur all of the time. (p. 249)

Vygotsky (1983) then went on to make this statement even more specific:

As Schiller says, ideas readily live in harmony with one another, yet they violently collide in space. Therefore, when a child begins to think in a given situation, this not only means that the situation changes in how it is perceived and interpreted, but above all, that the whole dynamic changes. The dynamics of a real situation, when converted into the fluid dynamics of thought, reveal a situation's new features, new opportunities for movement, association, and communication among subsystems. However, this direct motion of dynamics from the actual situation to thought would be quite useless and unnecessary, if the reverse, the backward transition from the fluid dynamics of thought into rigid and firm dynamic systems of real action also did not exist. The difficulty of implementing a set of intentions is directly related to the fact that the dynamics of an idea, with all its fluidity and freedom, must be transformed into the dynamics of real action. (p. 250)

I am certain that Bernstein would be pleased with Vygotsky's phrase about the "rigid and firm dynamic system of real action." Indeed, Bernstein's ideas about the image of an anticipated future are quite similar to Vygotsky's concepts about the field of meaning, the psychological or actual field of the future. It should be noted that in these excerpts we find nothing about external and internal, or internalization and externalization. And the opposition between object-related and psychological actions is not mentioned either.

Leont'ev went to great lengths to show that the external and internal planes are characterized by structures that are fundamentally similar. Some of his followers transformed this careful formulation into the claim that external and internal forms of activity are identical. Vygotsky (1983) had no illusions with this regard:

The dynamics of thinking do not simply mirror the dynamic relations that rule in real actions. If thinking changed nothing in dynamic action, it would be absolutely useless. Certainly, life determines consciousness. Consciousness arises from life and represents only one of its varied aspects. But having emerged, thinking itself starts to determine life, or, more exactly, thinking life determines itself through consciousness. As soon as we separate thinking from life, from dynamics and needs, as soon as we deprive thinking of its agency—we thereby close off any possibility of revealing and explaining thinking and its most fundamental purpose, that is, to define a mode of life and behavior, to vary our actions, to direct them and release them from the power of particular concrete situations. (p. 252)

Vygotsky's vision was not yet contaminated by the Leninist theory of reflection, nor by other ideological agendas (at least, it was less affected than the Russian theory of activity, see V. P. Zinchenko, 1991b). Vygotsky saw himself as a Marxist and was upset when others did not see him this way. At the same time, I believe S. Toulmin strongly exaggerated when he wrote that Vygotsky was *happy* to be considered a Marxist (Toulmin, 1981).

The work I have done so far in reinterpreting the concept of internalization does not imply that the massive empirical evidence developed to support this concept is wrong or unnecessary. Findings on the emergence and reduction of various forms of attention (which for some reason were termed *orientation* and *control of results*), as well as findings on stages in the formation of sensory, perceptual, mnemonic, cognitive, executive, intellectual, and emotional actions, as well as many other aspects are justly considered to be genuine achievements of Vygotsky's cultural-historical psychology, and the Russian theory of activity. This research continues to be of scientific and practical value (V. P. Zinchenko, 1991b, 1993a, 1993b). These empirical findings cannot and should not be viewed from the point of view of internalization, immersion, "growing-in" of object-related action; and they should not be viewed from the position that material is transformed into the ideal, mental, and psychological. Instead, this scientific evidence should be considered from the point of view of the evolution that occurs in intra-individual, intra-subjective, or, more simply, personalized forms of object-related activity. It occurs from the position of how higher mental functions, psychological functional systems, mental formations, artifacts, functional organs, cultural amplifiers, "transformed forms," "new formations," and so on, develop, mature, and grow within a psychological field of activity that is meaningful right from the start.

Such a shift from focusing on internalization to focusing on *differentiation* and subsequent externalization would help to get rid of many pseudo-problems such as, what happens to object-related activity after it has been internalized? Or, how can we find analogues or prototypes for object-related activity, not only for cases like counting in our heads, but also for all that happens in our rich spiritual (i.e., nonmaterial) world?

WORD AND DEED

Vygotsky certainly could not refrain from commenting on Faust's philosophizing about the Gospels. Vygotsky offered his own version of how to reconcile the opposition between word and deed. Following Gutzmann, Vygotsky changed the emphasis of what Goethe said to "*In the beginning was the deed*" and wrote: "The word forms the end rather than the

beginning of development. The word is the end that crowns the deed" (Vygotsky, 1982a, p. 360). This is certainly a fine phrase, yet one should add one of Vygotsky's constant refrains to the effect that in the course of development, causes and consequences are reversed. He paid special attention to the following: "Immediately before taking an action, the child begins to formulate in words a *pattern, a plan of action* that thereby anticipates the further course of action" (Vygotsky, 1984, p. 35). Vygotsky did not use the word "deed." Vygotsky (1984) preferred the notion of "voluntary action" and tried to understand how such action emerges as a result of the development of sign-symbolic activity. "A person's action which has emerged in the process of the cultural-historical development of behavior is voluntary action; that is, action emancipated from the power of immediate needs and the immediately perceived situation . . . it is action directed toward the future" (p. 85).

Vygotsky distinguished between simple intelligent action also inherent in animals, and intelligent voluntary action unique to human beings. For reasons mentioned above, this line of Vygotsky's research was not duly developed in Russian activity theory.

To discuss the problem of how word and deed are interrelated, one does not need to reflect so much on what is at the beginning and what is at the end. Rather, one needs to consider Vygotsky's line of reasoning, according to which the word (thought) and deed (action) appear as equal, both of which are struggling on equal terms. The passages from Vygotsky, cited above, on the relations between thought and action, tell the same story. These relations are quite dramatic and sometimes even tragic. When reflection or doubts similar to those of Hamlet become emancipated from action, or become too intellectual, practical action and the agent of such action can stagnate or can lose the reason for being called action in the first place.

The largest problem is that the logic of internalization-externalization eliminates the creative nature of the developmental process, without which new formations cannot arise. This logic leaves no place for intuition, insight, and ultimately, for revelation. The psychological-pedagogical practice that developed out of an internalized framework is salvaged by the fact that complete understanding and reproduction are impossible. Bernstein noted that "exercise is a repetition without a repetition." Hence, some space for creativity, for self-development always exists.

Earlier, we spoke of how complex the processes are that are involved in *appropriating* the relations between sign and meaning. According to Vygotsky, appropriation of this relation is equivalent to the emergence and development of symbolic activity. Such activity "arises neither in the way in which complex skills develop, nor in the way in which a discovery or invention by a child arises. The symbolic activity of children is neither invented, nor rehearsed by them" (Vygotsky, 1984, p. 14). One cannot say that Vygotsky resolved the problem of how sign-symbolic activity makes human behavior intelligent and free. It would be naïve to require such answers even from a genius. Vygotsky himself called these behavioral layers "new historical formations." However, Vygotsky (1984) defined what should become a subject for future research by giving his excellent phenomenological description of *action* emancipated from the power of the *immediate situation*:

By creating, with the help of speech, a temporal field for action alongside the present spatial situation (with the former being as real as the latter, though perhaps more diffuse), the speaking child becomes able to dynamically direct his or her attention while acting in the present. The child can thus operate in the present, while at the same time taking into account the future field, and can frequently relate to the changes occurring here and now from the

perspective of his or her own past actions. It is precisely due to speech and volitional control of attention that the future field of action is transformed from an abstract verbal formula into a given observable situation. Then, in this field of future action, all the elements involved in the plan of future actions become differentiated against the background of all the possible actions and thus become clear. A child's operations are different from operations in higher animals precisely in that the field of attention (different from the field of perception) selects, with the help speech, the necessary elements for an actual **future field** from the field of perception. (pp. 47-48)

I have devoted a great deal of attention to the problems of internalization and externalization, because it is precisely here that many followers—as well as critics—of cultural-historical psychology see the main achievements (or shortcomings) of Vygotsky. Vygotsky certainly paid great attention to these classical problems. However, as I stated above, the main thrust of cultural-historical psychology, its non-classical aspect, consists in something quite different.

When humans appropriate the whole range of mediational means, they thereby expand the degrees of freedom of their behavior, and therefore make the control of their behavior so much more difficult. In Vygotsky's theory of development, the concepts of mediation, appropriation, and conscious reflection are the key elements. The excessive variety of instruments, tools, and means available to humans is certainly a source of freedom for a developing individual. They are excessive only in comparison to "raw freedom," that is, to natural freedom that every living creature is endowed with from birth. This "surplus of internal space" gives rise to the problem of choice among many possible actions, instruments, and means—a problem that always must be resolved *hic et nunc*.

Let me put the problem in even more categorical terms. What we value most in a person is not his or her artificial or mediated dimensions, but the capacity to be natural, direct, sincere, genuine, spontaneous, overt, and ultimately, the capacity to be oneself. Is it really the case that all of this is lost in the process of development and mediation? Do people really develop in order to be turned into artifacts? This is extremely sad to even contemplate. We know that the most talented people maintain their authenticity and childhood throughout their life.

Fortunately, not all mediational means are artificial. The supreme mediator, according to Vygotsky, is another human being. This "other" human being is actually not an artifact, according to Vygotsky, Feuerbach, Buber, and Bakhtin. In Florensky's theory, another human being is not even a fact, but rather an act. B. D. El'konin continues to develop the ideas of D. B. El'konin concerning the initial forms of inter-psychological phenomena as "pre-symbolic forms in which one person organizes the behavior of another" (B. D. El'konin, 1996a). This is also reflected in the following aphorism by Bakhtin: "Man is an equation of myself and the other." In Vygotsky's theory, it is not the "force of things," but the "connection among human beings" that determines the development of higher mental functions and consciousness.

Prishvin [Russian writer, 1873-1954] used a similar aphoristic distinction: "Culture is the connection of people," and "civilization is the power of things." We can put this distinction in another way: Culture-*Cogito ergo sum* (I think, therefore, I am); Civilization-*Agum ergo sum* (I act, therefore, I am alive). The difference between *cogito* and *agum* are essential. I will cite Carl Jaspers once again: "Perhaps, man hoped to find his own being in his activity, but instead, has found himself, to his fear, in front of the emptiness he himself created" (Jaspers, 1991, 299). The cultural theory of consciousness and a "civilized" theory of activity are

organically linked to one another, and I hope, are also *organic* to human beings, who should contribute to overcoming this emptiness.

CONCLUSIONS

I will now draw some conclusions from what has been discussed in this paper. Affective-meaningful formations, which are objectivized in ideal forms that also have a material existence (i.e., that are objectivized in culture), never lose their subjectivity. The real, individual aspect of affective-meaningful formations is not something internal. It is quite objective and exists in the dimensions that Buber termed as the space *in-between* (between you and me). Therefore, a real form has a subjective-objective existence. The intermediary forms, i.e. artifacts and other mediational means, make the mutual transitions between ideal and real forms, objective-subjective, as well as the subjective-objective forms possible. Thus, all three forms—ideal, real, and mediational—are living, active forms, common in nature. They are organic, complementary, and compatible with one another. Granted, things can go wrong and sometimes one form can be torn apart from another or rejected by another. Quite simply, all of these forms are part of human nature, though sometimes they may turn into the inhuman. Relations between ideal and real forms can be described as that of mutual generation between each other: Real forms generate ideal ones and ideal forms generate real ones. In the latter case, the individual personal form transforms itself into a *super*-individual, *super*-personal one, and ultimately can be dissolved in the ideal form and even go beyond it. When cultural-historical psychology achieves this understanding, it will become an *event-historical psychology*. Initial efforts in this direction are already being made by B. D. El'konin, who discusses developmental acts as events (B. D. El'konin, 1994). Of course, such *event-historical* psychology cannot be constructed without a full-fledged theory of personality (and not just theory). Ideal, real, and mediational forms constitute human existence, or, in Mamardashvili's words, form "a single existence-consciousness continuum." It is here that I see the *non-classicism* of Vygotsky's approach and the *organic nature* of his cultural-historical psychology.

Readers familiar with dialectical materialism can reasonably ask the following questions: How then do we handle the fundamental problem in philosophy? Namely, how do we conceptualize the world of Nature and the Cosmos itself as existing apart from and independently of human beings? We certainly cannot conceptualize it as an objectivized, affective-meaningful formation of humans. This world really does exist outside of and independently of humans. However, it exists in this way only until it becomes the human world. To become human, the world must enter the circle, the existence-consciousness continuum, it must enter the realm of human activity.

Science, following mythology, poetry, and religion, is gradually coming to understand the idea that the universe is originally *organic* for humans. The eye produces the sun to the same extent as the sun produces the eye (at least in mythical and poetical traditions). Science is discovering new evidence for the hypothesis that the Universe is based on anthropological principles.

A comforting view that a child's development can occur in a smooth way, without major conflicts (only sometimes interrupted by easily foreseeable crises that occur from time to time), was typical of Soviet psychology after Vygotsky, and this view still exists today. It

was, however, not characteristic of Vygotsky's own thinking. Vygotsky clearly understood the dramatic and sometimes catastrophic nature of human development. Vygotsky attempted to experimentally break up the higher mental processes into parts (i.e., by reversing them in time), that is, to unfold them into a drama that occurs between human beings. In short, he attempted to describe development as a genuine social genesis of higher forms of behavior (Vygotsky, 1982b, p. 145).

For some time, Russian psychology (fortunately not all of it and not for a long period of time) shifted away from this agenda that could never be fully realized during Soviet times. This psychology studied the functional genesis and micro-genesis of higher mental processes and their operative technology. In other words, Russian psychology did not follow in the footsteps of Vygotsky, but of the two other geniuses of psychology in the twentieth century—N. A. Bernstein and J. Piaget. One interesting detail is that while criticizing Piaget from the position of Vygotsky, Russian psychologists in fact were criticizing themselves. It is in this context that we should understand D. B. El'konin's call "Forward to Vygotsky!" In his agenda of exploring the *cultural social genesis* of mind, behavior, and consciousness, Vygotsky again and again demonstrated the unity of his own affect and intellect. To many scholars, Vygotsky and the whole agenda of his life were, and to some degree still remain, an example to follow and implement.

Some final words: Outstanding thinkers have developed Vygotsky's theory further. However, this theory is akin to its main subject matter, that is, the more one develops it, the more work remains to be done. I had no ambition to develop it—only to understand and to communicate my understanding. Obviously, my understanding is different from that of other scholars. It is perhaps Vygotsky himself who should be blamed for this, as he achieved so much and was so much ahead of his time.

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Chapter Two

L. S. VYGOTSKY AND A. R. LURIA: FOUNDATIONS OF NEUROPSYCHOLOGY¹

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INTRODUCTION

I would like to start this paper with a remembrance. In 1970, I completed my dissertation and L. S. Tsvetkova, my supervisor, decided to show the manuscript to Alexander Romanovich Luria. He made a single correction: In one place, concerning the detailed development of neuropsychological principles, he crossed out his name and wrote: L. S. Vygotsky. Since I had mentioned the elaboration of those principles in detail, I found it more appropriate to mention the name of A. R. Luria; however, Luria had a different opinion on this issue. Being a young, resolute author, I put both names in the paper.

In sharing this remembrance, I was not only driven by considerations of A. R. Luria's faithfulness to his friend and mentor, but also by a desire to ask a few questions: If A. R. Luria was right, what road led L. S. Vygotsky to a comprehensive development of the principles of neuropsychology? What is the basis of this new field? What general theoretical system incorporates these principles? The answers to these questions are of importance for the history of the science, and for the strategic phases of neuropsychological development in general. The significance of the entire body of neuropsychology must be taken into account when studying specific issues; and, as well, there is a need to return to the basics of this discipline with every step forward in the development of this science.

Unfortunately, we do not possess a sufficient amount of research material to provide all of the answers to these questions. Specifically, I have in mind the loss of valuable documents, records of clinical studies conducted by L. S. Vygotsky, which were once preserved by one of his students, L. S. Geshelina, that have been lost. Colleagues of my generation still remember clinical cases of patients discussed by A. R. Luria, however, the recorded tapes were never

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