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Tool and Sign in the Development of the Child

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This section reproduces the first four chapters of Vygotsky's famous work on *Tool and Sign* (in other places, translated as *Tool and Symbol*). There are an infinite number of ways to understand and interpret a scholarly text. However, it is absolutely indispensable to keep one thing in mind when seeking to make sense of an author's ideas: a text, just like any other meaningful creation of the human mind, must be considered to be alive. It is alive because it is born out of the author's attempt to make sense of the world and to bring something new to the world, transforming that world and, in the process, simultaneously transforming oneself. A text is alive in another way in that it is always born out of collective, not solitary, efforts of many people who are involved in the process of knowledge creation in multiple roles: as immediate and distant partners in dialogues of ideas, as opponents whose views are critiqued, and more often than not, as colleagues who collaborate shoulder to shoulder in carrying out the scholarly project. A scholarly text is alive in yet another sense: it always needs to be read by someone anew, to be made into a meaningful part of the reader's own life and work, thus continuing that text's existence within the continuously unfolding and creative human pursuits in the world.

On the surface, such a view on the origin and meaning of scholarly texts, and of the production of knowledge in general, might seem to be a rather belletristic description. However, this view is actually solidly grounded in principles inspired by Vygotsky's cultural-historical theory of human development. To illustrate this point, this essay will first briefly discuss how the cultural-historical ideas themselves have been brought to life, in order to show that their creation followed, in a wonderfully explicit way, the general path that marks the production of knowledge as a meaningful, value-laden, and collaborative

human endeavor grounded in practical social pursuits in the world and itself aimed at transforming the world. Then we will see how these principles for understanding human knowledge are directly embodied in the major tenets of Vygotsky's cultural-historical theory (drawing from Tool and Sign) and how these ideas can be further explored in the service and context of challenges facing psychology today. It should be noted that, although much progress has been recently made in interpreting Vygotsky's theory (e.g., in works by Cole, Scribner, Rogoff, Wertsch, and others), the understanding of Vygotsky's theory of human knowledge and development is still in the early stages. Therefore, new generations of students and scholars who have just begun their acquaintance with Vygotsky can expect to join in and to contribute substantially to the important work of unraveling the full potential and the implications of his approach, which holds great promise for the future of the whole discipline of psychology and neighboring disciplines.

The Cultural-Historical Origins of Vygotsky's Cultural-Historical Theory That scholarly works are living creations of humans -- part and parcel of their meaningful and practical pursuits in the world -- is perhaps especially evident when we read Vygotsky's work, *Tool and Sign in the Development of the Child*. Indeed, he wrote this in dialogue with a number of prominent contemporary researchers: Buhler and Gesell, Piaget and Kohler, Stern and Werner. In fact, it was written in dialogue with, and as a critique of, essentially all the dominant trends in psychology of the time, from Gestalt psychology to behaviorism. It is a distinctive feature of Vygotsky that he criticizes and dialogues with a broad scope of the ideas of others. However, it is not just the scope of reference that uniquely marks Vygotsky's works; what is even more amazing is Vygotsky's ability, as critic, to expose the essential core of each approach; that is, to reveal the sometimes tacit and hidden meanings behind layers of expressed ideas, as he seeks the pivotal assumptions lying at the very heart of each theory or research agenda. This ability to derive the foundational premises of various, often competing, approaches allowed Vygotsky meaningfully to juxtapose and to compare various approaches, to derive important implications from them, and, most importantly, to move beyond these approaches by creatively synthesizing, negating, and advancing their insights in view of Vygotsky's own genuinely new horizons of ideas and pursuits. The new horizons in Vygotsky's research agenda formed truly novel, synthetically whole structures, which assimilated many of the ideas developed by his predecessors while making these ideas acquire new potentialities and

meanings. Synthetically whole structures are able to cast new light on the 'old' components that have been drawn into them. This principle was not only a mode of operation that guided Vygotsky's own thinking; it was also a theoretical principle that he reflected upon in many of his writings, including *Tool and Sign*. This peculiar feature of much of Vygotsky's work and writings—that he often describes the very principles that de facto guide his own research—will be illustrated by several examples in this introduction.

Furthermore, note that Vygotsky wrote *Tool and Sign* in close collaboration and in lively discussions with a number of people: A. R. Luria, A. N. Leontiev, R. E. Levina, N. G. Morozova, L. S. Slavina, A. V. Zaporozhets, and others. They formed the so-called Vygotsky Circle, which included several brilliant women, and they carried out research projects collectively. It is quite revealing, in this respect, that even the authorship of *Tool and Sign* is disputed; there is some reason to believe that Vygotsky wrote it together with Luria. Because the historical records are not completely clear, the work has been published with varying authorship—either under Vygotsky's name or under the names of both Vygotsky and Luria (see Vygotsky, 1999; Vygotsky & Luria, 1994). Whatever the case of the authorship of this particular work, the ubiquitously collaborative nature of Vygotsky's project in general must be emphasized, especially because it has often been underestimated or even ignored in previous accounts of his heritage. Vygotsky has been portrayed, in line with the old-fashioned "Great Man" version of the history of science (of Leahy, 2002), as the scholar who "single-handedly" (Kozulin, 1999, p. 2) created the cultural-historical approach in his solitary pursuit of theoretical principles, and his close collaboration with members of his team is, for the most part, only briefly mentioned (e.g. Valsiner and van der Veer, 2000; van der Veer and Valsiner, 1991). However, any attempt to understand the cultural-historical approach is incomplete if one disregards the complex dynamics of how this approach emerged and developed as an essentially *collaborative investigative project* that entailed the truly collective efforts of a number of scholars committed to the same ideals and goals and dedicated to the same agenda: to develop psychology as a science that is capable of making a difference in the real world by contributing to the creation of a just and equality-based society. In that sense, the cultural-historical theory represents an example of a genuine school in psychology,

rooted in a shared philosophical background and in a commitment to common ideological, moral, theoretical, and pragmatic ideals and goals. Ignoring the collaborative nature of Vygotsky's work goes against the very spirit of his theory, with its assertion of the deeply social and collaborative nature of the human mind in any of its expressions, including scholarly products such as theoretical ideas and programs of research.

Perhaps even more importantly, Vygotsky wrote his works not out of an ivory tower of purely academic pursuits, but from the midst of a very active engagement with the practical tasks of the turbulent and often violent, but also invigorating and innovative, social life that unfolded after the Russian Revolution, the immediate context of Vygotsky's work. It would be a mistake to imagine that Vygotsky sat in solitude in his armchair, contemplating abstract psychological issues, and then put his solutions on paper, the final destination of his efforts. According to what we know from memoirs and biographies that discuss Vygotsky, he participated in and contributed to the *drama of life*, not just the world of ideas, by himself engaging in practical endeavors and pursuits: reorganizing the whole national system of education and devising special rehabilitation programs for homeless and handicapped children, consulting with these children and other patients, lecturing to teachers and workers, participating in political debates, and otherwise trying to contribute to the growth of the new society of his times.

Vygotsky's ideas and scholarly texts emerged directly out of his practical, passionate, and distinctly collaborative engagements with these real-life problems. His writings are not simply expressions of abstract thinking and insights that emerged and existed separately from his life and practice; they are the very embodiments and vehicles of his practical engagements with his society and the challenges of his time. In this sense, Vygotsky's texts represent the stepping stones -- simultaneously products and tools -- of his overall pursuit to devise a new psychology for a society built on the ideals of social equality and equal opportunity for all, even for the most disadvantaged ones, such as homeless and disabled children. Thus, Vygotsky's texts are also deeply imbued with clear moral values and commitments, which cannot be ignored in any interpretation of his cultural-historical theory. Of course, Vygotsky and many others who, like him, had enthusiastically

welcomed, and contributed to, the new Soviet society later became bitterly disappointed by the tragic failings of this gigantic social experiment, as it gradually turned into a repressive and stifling regime. However, these subsequent failings and related disappointments do not change the initial moral thrust that motivated Vygotsky and his colleagues and formed the basis of their work.

Vygotsky's theories and texts, including *Tool and Sign*, should be seen as both products and vehicles, tools for his deeply passionate and ideologically driven practical engagements with the realities of his turbulent time. His psychological ideas and philosophical principles resulted from, embodied, and simultaneously helped advance his practical engagements and commitments. Thus, the very history of Vygotsky's project in psychology provides a clear alternative to the narrowly mentalistic and individualistic notion of knowledge (as being processes only "in the head") as it reveals that ideas, theories, and knowledge in general are not merely mental constructs, but elements within real-life transformative activities in the world, activities that serve practical purposes and that change the world. This conceptualization challenges dominant theories in psychology that reduce knowledge to the purely intellectual realm and development of knowledge to the dynamics of voices and intellectual dialogues among the scholars. The following discussion will show how this view of Vygotsky's work is consistent with his major stance on the nature of human development, drawing upon several interrelated ideas developed specifically in *Tool and Sign*.

Central Principles of Human Development in *Tool and Sign* In this important work Vygotsky elaborates on at least four main ideas about human development. The first major issue, quite consistent with the overall quest of Vygotsky's deeply ideological project in psychology, is the issue of human freedom, that is, the human ability to act purposefully according to socially meaningful goals and with the help of socially developed tools, thus overcoming the dictates and constraints of nature and environment. This issue is a common thread that runs through most of Vygotsky's works and reflects his major goal to develop an approach that can address not only abstract principles in psychology but that can advance and put to use knowledge about specific conditions that

are necessary for individuals to develop into fully responsible, free, and competent members of a human community.

Vygotsky often discussed the issue of freedom in terms of the differences between lower and higher psychological functions. (See Section IV of the present book.) Couching human freedom in these terms, Vygotsky was dialoguing with and critiquing the prevailing trends in psychology of his times. He aptly summarizes these prevailing trends on the very first pages of *Tool and Sign*, as he describes two metaphors underpinning most of the contemporary theories of child development: the metaphor of a growing plant (derived from botany) and that of animal development (derived from studies of animal behavior or comparative psychology). According to these metaphors, child development can be seen as the simple mechanical growth of capacities that are present in the child right from birth (as in the growth of a plant seed) and that unfold according to predetermined and essentially unchangeable laws of nature (as in the straightforward training of habits in animals). To counter these views and to reveal what constitutes specifically human development, Vygotsky needed to introduce a concept that would stand in clear contrast to processes in nonhuman nature. The concept of "higher mental functions" was evidently meant to play such a role. That psychological processes in very young children were described by Vygotsky as "lower" or "natural" and not yet belonging to the realm of cultural development was perhaps a rhetorical overstatement of this contrast, inevitable at the early stages of introducing a new concept when sharp contrasts are necessary and useful. The strict opposition between the lower and higher mental processes, however, should not be taken as an absolute principle; indeed, it was often questioned by Vygotsky himself, when he stated, for example, that the "whole history of the child's mental development teaches us that from the first days, his adaptation to the environment is achieved by social means through the people around him;" (for this and similar ideas, see Vygotsky's work on child psychology, described in Section V of this book). The idea of a strict dichotomy between lower and higher mental processes was later abandoned by Vygotsky's immediate co-workers and students (e.g., El'konin, Zaporozhets), in favor of seeing all human development, right from the first days of child's life, as an essentially sociocultural and tool-mediated process. As further

discussion will show, this interpretation is quite consistent with the gist of Vygotsky's theory that all human psychological processes develop out of collaborative social forms of interaction.

How does psychological development proceed to overcome the natural constraints of environment, thus becoming free? Vygotsky's answer is that this process involves the use of signs, symbols, and other cultural tools (most importantly, language, the tool par excellence); humans use these to transform the world rather than passively adapt to the world's conditions. Cultural tools represent humankind's greatest invention, and they arguably form the very basis of a specifically human way of life, creating everything that is human in humans. Cultural tools allow people to embody their collective experiences (e.g., skills, knowledge, beliefs) in external forms such as material objects (e.g., words, pictures, books, houses), patterns of behavior organized in space and time (e.g., rituals), and modes of acting, thinking, and communicating in everyday life. Such external (or reified) forms that embody collective social knowledge and experience constitute a unique dimension of existence -- human culture, into which each child is born and which he or she has to acquire in order to participate in social life. The existence and continuous exponential growth of human culture, throughout history, tremendously expands the horizons of human development because large amounts of collectively accumulated experience are passed from one generation to another in teaching-and-learning processes, without having to rely on more biologically based and inflexible processes such as instincts.

Because complex cultural signs embody experiences and skills of previous generations, learning to use them brings a dimension of social history and culture into each individual's development. This emerging capacity to use tools and signs, according to Vygotsky, gradually allows humans -- in their history as a biological species (phylogeny), as a civilization (social history), and as individuals (ontogeny) -- to leap from the constraints of the natural environment, defined by the laws of biological evolution and stimulus-response modes of behavior, into the realm of cultural-historical development with its infinite degrees of freedom.

This freedom, according to Vygotsky's painstaking explanation, is chiefly due to the emancipating role of speech, as children begin to act through that medium while solving practical problems posed by life. The amazingly powerful role of speech would be impossible if speech were simply added to previous, more elementary psychological processes. However, instead of being a mere addition, the use of speech radically changes and even creates a whole new system of behavior, allowing the child to plan for future actions, to direct attention to elements of the visual field that are important in view of certain goals and purposes, to select the actions that are most efficient in a given situation, to integrate others into the solution of the problem (for example, by asking adults for help and clarification), and so on. The result is an emerging ability to steer actions in a desired and planned direction, turning those actions into a voluntary, self-regulated, and purposeful complex activity planned over time, according to certain meaningful goals. This ability to consciously plan one's own behavior in advance and then to carry it out according to a preestablished plan constitutes, according to Vygotsky, the essence of specifically human forms of behavior.

A second central principle of Tool and Sign is that collaborative forms of behavior lie at the very root of human development. The child never acts alone but is intimately related to and dependent on other people. In this sense, the human infant, according to Vygotsky, is paradoxically the ultimate social being because of its complete dependency on other people. These collaborative behaviors, the primary form of which is the parent-child interaction, always entail tools and symbols carried over from previous generations and introduced by adults to the child to facilitate collective efforts aimed at solving present tasks. The child gradually appropriates these tools, as well as the modes of action embodied in them, through internalization, whereby the tools are converted into the resources of each child's individual behavior. The converted, internalized forms of behavior, nonetheless, retain a social method of functioning and thus always remain essentially social, even when, at the later stages of development, people appear to be acting alone. Thus, Vygotsky discloses the development of human psychological functions as a sociohistorical process. Namely, he reveals development as the process of

converting resources of social behavior, discovered by generations of people and reintroduced to each member of a human community through collaborative shared activities with more experienced partners (i.e., adults) into the resources of individual psychological functioning and behavior.

The third, and perhaps the most important, concept in Tool and Sign is actually not a separate idea but a logical continuation of the previous two. As Vygotsky points out in several places, there is always a unity of processes, such as voluntary attention, logical memory, perception, movement, as well as practical intellect and action. Human development entails the emergence of unified systems that combine symbolic, affective, practical, social, motor, and intellectual processes together -- systems that constitute, in Vygotsky's words, "the only actual object of psychology." This conclusion, he claims, is of "great theoretical importance" that needs to be explored, especially because it has been insufficiently emphasized in current interpretations of his theory.

Vygotsky's remarkable statement has often been interpreted as the unity of mental processes, for example, as drawing together memory and thinking processes. Indeed, Vygotsky gives many examples of this kind, such as when he shows that memory, in its mature form, includes active conceptualizing and reasoning about what has to be memorized, therefore constituting the complex unified processes of conceptual memory. This view indeed indicates a progressive shift away from seeing mental functions as discrete and narrowly focused processes that can be defined and studied separately from each other (compare, for example, information-processing models of cognition).

However, Vygotsky's point is broader than the claim about unity of mental processes. What he essentially states, and this might sound like a paradoxical idea, is that mental processes are always more than simply mental. A mental process is always an element of a larger unity; that is, it is part of a system of processes that goes beyond the mental realm (i.e., of cognition and mind) and unites instead the mental and practical, the internal and external, dimensions of human functioning, essentially blurring the strict demarcation between these dimensions. To illustrate this idea, Vygotsky discusses

activities such as playing, reading, writing, counting, and drawing -- processes that stretch far beyond the confines of purely mental and solitary activities into the realm of social and collaborative activities in the real world. These activities, according to Vygotsky, are the true objects of psychological analysis; in these realities of human development, mental and physical are blended, because people never merely perceive, memorize, think, etc., outside of larger meaningful activities that relate them to the world and to other people. Such meaningful activities always involve achieving something out there in the world, outside the "mind," for example, establishing and maintaining friendship, becoming a successful learner, or simply eating lunch. Mental processes are not separate faculties that emerge and develop on their own grounds but are parts or versions of very worldly activities that humans pursue during their lives. It is in the service of such activities, and following the logic of their development, that the human mind evolves and develops, always driven by necessities, regularities, constraints, potentialities, and goals of meaningful life pursuits. This broader view of the unity of processes that constitute human development has tremendous implications for the whole discipline of psychology. Essentially, it overcomes the centuries-old belief that the mental and the physical are two distinct realms, each of which exists on its own and relates to the other through some complex (and as yet unknown) mechanism. This belief, in its various forms (e.g., the dichotomies of mind--body, spirit--flesh, etc.), is entrenched in academic vocabulary, in everyday language, and even in popular culture, continuing to permeate much of our thinking, discourse, and practice. Because this belief is so ubiquitous and deeply entrenched, it is very hard to grasp an alternative view. Vygotsky himself occasionally slips into a more traditional mode of expression, drawing the old-fashioned lines between the two realms and speaking of the unity of "mental processes."*

It is not surprising, then, that some Vygotsky-inspired research today remains de facto within the traditionally dichotomous approach. Some wavering between the older views and his groundbreaking insights notwithstanding, Vygotsky's views on the most vexing problems of human development are amazing and truly revolutionary in their consequences. In place of traditional boundaries and dichotomies, Vygotsky directly asserts that mental and physical (practical) processes do not belong to separate realms but are merged to form one unified whole -- the single process of cultural development of a

child. Thus, he establishes the foundation for studying complete systems of meaningful life activities in the real world, systems that allow individuals to transform this world while in the process transforming themselves, and that also entail psychological processes as inherent ingredients and instruments of these activities. The meaning of this approach is best revealed if we consider some specific instances, examples, and implications. -----

-----*Here again one of the principles described by Yygotsky can be seen at work in his own writing. In Tool and Sign Vygotsky explains how each new element brought into an older system (of ideas or psychological processes) cannot reveal itself at once with its full force but, instead, is dragged down to lower levels that are defined by older processes of understanding. It takes time for the new idea to overcome the larger set of ideas as a whole and to elevate them to the new level. -----

In Tool and Sign Vygotsky makes considerable effort to illustrate and substantiate this extremely innovative view, both for his times and for today. These illustrations include, for example, his analysis of the child's evolving ability to speak as representing *a natural continuation of the child's practical contacts with the world*. Thus, Vygotsky notes that, for a child, the first naming of a thing is simultaneously a whole new way of dealing with this thing, and is no less practical than touching and otherwise physically handling it. The child initially even believes that names literally belong to things, that the names blend with the things and cannot be taken away, so that the table, for example, must necessarily be named "a table" and be known by no other word. Similarly, changing a thing's name, for a child, practically equals changing the thing itself. Rather than simply reflecting a child's naivete, these beliefs contain a solid grain of truth. As Vygotsky puts it, children use speech not as an operation that simply accompanies their practical attempts at solving some problem; rather, children solve problems *with and through speech itself*, instead of solving it solely with hands and eyes. Therefore, Vygotsky insisted, the chief problem with previous theories was exactly that the "origin and development of speech and any other symbolic activity was considered as something that had no connection with the

practical activity of the child, just as if he were purely a rational subject." Vygotsky, in contrast, regarded the history of speech as "flowing in the process of practical activity" and thus asserted the practical relevance of speech in unity with other forms of social behavior that realize the relations of individuals to themselves, to other people, and to the world around them.

Thus, in Vygotsky's interpretation, speech acts and other 'mental' processes are not fleeting, ephemeral phenomena in the shadow of action, but instead are powerful ways of changing the world. This is what he means by his powerful statement at the very end of *Tool and Sign*, namely that a *word is itself a deed*. This statement stands out in force and crowns this whole masterpiece of Vygotsky's psychology.

The idea that cultural development represents a unified system of processes driven by the logic of real-life tasks and contacts between the child and the world (including, importantly, other people) brings us to the fourth, and pivotal, theme of *Tool and Sign*, namely, that transformations of practical activity constitute the very reality of human development in all of its forms, including the emergence of 'mental' processes. A careful reading reveals an idea (ironically glossed over in previous interpretations of this work) that Vygotsky emphasizes again and again throughout the whole text, namely that development "arises neither through the path along which a complex habit is developed, nor through the path along which the child's discovery or invention arises" (p. 9). The child does not invent new forms of activity as an "intellectual discovery" (here Vygotsky criticizes a famous notion by Karl Buhler, that children discover that objects have names). Neither are these forms of activity a result of simple memorization and training, as in the development of a habit. How then does such new activity develop? Vygotsky attempts to formulate his answer to this question in several places, as if trying out and de facto developing a solution through his own writing (and, thus, through his own speech), as he thinks in and through words, following through with various implications of his conceptualizations to see how certain ideas work, or do not work, for his purposes. * Vygotsky emphasizes that the child's activity never simply improves, as in the process of mete training in animals, but instead undergoes deep qualitative changes that "must be

described as development in the true sense of the word." Development cannot be conceived as emerging from a mere training of skills to solve a certain problem, because even one and the same problem, when presented at different points in time, is never quite the same. The seemingly 'same' problem, in fact, presents a new situation each time, with certain new demands and conditions, as well as new meanings and new contexts of its realization.

* Here, again, Vygotsky's style of writing embodies the very psychological principles that he purported to develop. Thus, looking for solutions to problems in the form of directly thinking *through* speech, Vygotsky illustrates his own idea that thought is never simply expressed in speech but is born in it (see Section I of this book, on "Thinking and Speech").

Therefore, previously developed skills and methods turn out to be insufficient or inadequate in a new situation, thus often becoming obstacles rather than factors contributing to the solution. Furthermore, according to Vygotsky, the formation of a new activity, even an intellectual one, least of all resembles a purely logical transformation, in which the child mentally derives new solutions. The process of development goes beyond training and intellectual discovery and instead involves sequential changes in, and reorganization of, the process of practical activity, giving rise to new forms of it. In other words, it is the flow of activity itself, and the contradictions in activities that arise in life, that engender transformations of activity and constitute the development of its new forms, including 'mental' activities.

A child's activity undergoes transformations, essentially because the child is faced with situations that constantly change their social meaning as the child becomes involved in more and more complex forms of cooperation with other people, including forms of cooperation that demand complex symbolic forms of interaction. It is in this sense, according to Vygotsky, that the sources of development lie in the social environment of the child. Note that the centrality of social environment in development does not mean that the former directly dictates developmental paths and outcomes. Rather, the impact of

the social environment is indirect, coming to force only through the child's own activity as the child participates in shared and culturally shaped social collaboration. One could say that the social environment imposes important features and parameters on the child's activity (e.g. through cultural supports provided in social collaboration), but ultimately it is the child's own activity that drives the development, while the child gradually turns into a more and more active participant in this collaboration.

Perhaps the most cogent formulation of what human development is all about comes in Chapter I, in the section, "Development of higher forms of practical activity in the child," where Vygotsky states: "The child does not invent new forms of behavior and he does not derive them logically, but forms them by the same means as walking displaces crawling and speech displaces babbling. . . ." Indeed, how does the child acquire the ability to walk? Walking does not emerge through the training of a previously existing skill; neither is it discovered by a child; instead, walking comes about through the unfolding of an increasingly complex activity that serves the goal of freely moving in space, a goal that itself emerges in the course of collaborative shared activities with adults, because moving around on foot is a necessary ingredient of participating in these activities. In the process, the initial forms of this activity (i.e., crawling), as they are carried out in social contacts and joint activities with other people, face growing social demands and an expanding range of mediating support that bring about the change and elevate the initial forms to new levels of complexity, ultimately substituting for them.

This description by Vygotsky indicates that development unfolds in the context of real-life activities, always initially collaborative, as those activities undergo complex transformations, driven by demands of social life (themselves the results of the child's participation in more and more complex forms of social cooperation) and supported by new cultural resources that are introduced to the child in the course of social cooperation. Development is crucially dependent on the mastery of culturally defined modes of action (including modes of speaking, thinking, and even moving), but this mastery can take place only in the ongoing real-life activities of social cooperation, leading to mastery of one's own behavior in such a way as to make this behavior free, that is, able to pursue the

goals of human endeavors. Importantly, a specifically psychological development (e.g., of attention, memory, or speech) is not a separate process, but it is an intrinsic part of the overall process of cultural development and is thus subordinate to the goals of participation in collaborative practical forms of social life.

This final theme of Tool and Sign is remarkably congruent with the point that was made at the beginning of this essay. Just as Vygotsky described the process of human development in Tool and Sign, this work itself was by no means a mere intellectual discovery; neither did it come about as a result of the simple growth of its author's purely mental capacities to develop psychological ideas and concepts. This work, like other creations by Vygotsky, was a product of his activities and collaborative practical engagements within a unique sociohistorical context that presented him with an unprecedented challenge -- and opportunity! -- to devise a new system of psychology that could help trace the development of human freedom and could be used to promote and realize such a development. This unique challenge became the foundation for Vygotsky's whole life project with its commitment to *social change* in a very clear direction toward justice and equality, in stark contrast to mainstream directions of psychology at the time that, for the most part, were pursuing knowledge that could result in social control and in preserving the status quo. Vygotsky's project, importantly, was not limited to mere intellectual tasks but came out of a unique and living system of his activities -- a system of social practice -- in which practical and intellectual, moral and emotional, and individual and social components all blended into a unified whole.

Tool and Sign was a product of these active, and often passionate, practical-intellectual pursuits by Vygotsky and his colleagues, and this work also became an instrument of their further pursuits. Thus, the ideas about conditions and regularities in the development of higher, free forms of human behavior were put to work by Vygotsky himself in his day-to-day practical engagements in the field of education, including, for example, the education of handicapped children. As Vygotsky believed, when provided with adequate mediational (i.e., sign-based) support from adults in organizing their activities in life settings, all children can progress to the highest levels of functioning to become fully

competent members of society. Vygotsky's many followers later used the same ideas in highly successful rehabilitation and education programs for severely handicapped children, including deaf-and-blind, and in similar work. In this sense, Vygotsky's own work embodied one of the major metaphors of Tool and Sign, namely, that at the beginning of his work there were his deeds, which he turned into words that, in the end, again themselves became deeds.

Thus, Vygotsky's writings can arguably be seen as an essential part -- a product as well as an instrument -- of a broad collaborative social project that stretched beyond the confines of a merely intellectual enterprise, in its traditional mentalist guise, into the realm of social practice in which intellectual, cognitive, and practical processes are all blended. In this sense, Vygotsky's ideas can be best viewed not merely as ideas (in the traditional connotation of ideas being fleeting and ephemeral reality separate from action and practice) but as just *another form of an active engagement with the world, with the ultimate fundamental purpose of changing something in this world and oneself*. In a similar vein, an understanding of Vygotsky's work is best achieved in the context of a reader's active pursuit of some meaningful socio-practical task. That is, the best way to penetrate Vygotsky's ideas is to turn them into an instrument of one's own social practice, for example, by trying them out in solving some meaningful problems related to social change and human development. This does not mean that one can understand Vygotsky only while literally doing, in parallel, some practical work. Such an extreme view would presuppose a strict demarcation between practical and theoretical dimensions, and thus would go against the very spirit of Vygotsky's approach, in which theory and practice were seen as extensions of each other, as merely different facets of one and the same process, that of meaningfully contributing to practical tasks posed by life. Just as, according to Vygotsky, the mental and material are not separate and mutually exclusive realms, so are theoretical and practical types of work simply different aspects of one and the same reality of human social praxis and the purposeful transformation of the world. Kurt Lewin's famous expression, that there is nothing more practical than a good theory, could be extended, following the gist of Vygotsky's approach, by the mirror expression that there is nothing more theoretically rich than good practice. Vygotsky's works both

theoretically stated these principles (although not explicitly in this form) and embodied them in the ways that these works were carried out and implemented in life by him and by his colleagues.

In conclusion, the inherent interdependency among the major themes developed by Vygotsky in *Tool and Sign* should be emphasized. From the foregoing analysis it follows that Vygotsky was pursuing a coherent and multifaceted research project rather than one single idea, such as that of mediation, as has often been presumed in previous interpretations of his work. Thus, the theme of the mediating role of speech and other signs is intricately connected with the idea that psychological processes, such as speech and thinking, form a unified whole of verbal thinking and conceptual speech. This idea is further linked to the broader theme of the unity of mental and practical processes, and, through the latter, to the centrality of child's participation in social collaborative activities as a guiding principle in development. These ideas of Vygotsky shed light on one another and make sense when regarded as a unified whole. Incidentally, these ideas presage much of today's cutting-edge research on child development, research that represents the best antidote to the individualist and mentalist fallacies of mainstream cognitivism. It would be not difficult, space allowing, to address how many avenues of research -- such as distributed cognition, collaborative participation, participatory learning, dialogical inquiry, and dynamic systems approach -- all bear significant similarities to ideas developed in Vygotsky's school. At the same time, these ideas, with their emancipatory and humanistic potential, in their ability to serve as an instrument of profound social changes in how we educate and treat children, are still in the Zone of Proximal Development of today's psychology. Again, it is perhaps the new generation of psychologists who will take over Vygotsky's passionate words -- deeds and turn them into their own novel ideas and programs, which are urgently needed to meet the challenges that face psychology and society today. **References** Kozulin, A. (1999), *Vygotsky's psychology: A biography of ideas*. Cambridge: Harvard University Press. (Paperback edition, first published in 1990.)

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