L.S. VYGOTSKY

MIND IN SOCIETY

The Development of Higher Psychological Processes

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Editors' Preface

Lev Semyonovich Vygotsky has figured prominently in American psychology since the publication in 1962 of his monograph *Thought and Language*. Five years ago, at the urging of Vygotsky's student Alexander Luria, we agreed to edit a collection of Vygotsky's essays which would reflect the general theoretical enterprise of which the study of the relation between thought and language was one important aspect. Luria made available to us rough translations of two of Vygotsky's works. The first, "Tool and Symbol in Children's Development" (1930), had never been published. The second was a translation of a monograph entitled *The History of the Development of Higher Psychological Functions*, which appeared in the second volume of Vygotsky's writings published in Moscow in 1960. A cursory study of these essays quickly convinced us that the scope of Vygotsky's work reached considerably beyond *Thought and Language*. Furthermore, we came to believe that the image of Vygotsky as a sort of early neobehaviorist of cognitive development—an impression held by many of our colleagues—was strongly belied by these two works.

We have constructed the first four chapters of this volume from "Tool and Symbol." The fifth chapter summarizes the major theoretical and methodological points made in "Tool and Symbol" and applies them to a classic problem in cognitive psychology, the nature of choice reaction. This chapter was taken from section 3 of *The History of the Development of Higher Psychological Functions*. Chapters 6 and 8 (learning and development, and the developmental precursors of writing) are from a posthumously published collection of essays entitled *Mental Development of Children and the Process of Learning* (1935). Chapter 7,

on play, is based on a lecture delivered at the Leningrad Pedagogical Institute in 1933 and published in *Voprosi Psikhologii (Problems of Psychology)* in 1966. Complete references are given in the list of Vygotsky's works that follows the text of this volume.

At several places we have inserted material from additional sources in order to more fully explicate the meaning of the text. In most cases these importations are from sections of *The History of the Development of Higher Psychological Functions* other than the one included here; the rest are taken from other essays which appear in either the 1956 or the 1960 volumes of collected works. In a few cases passages have been taken from the work of Vygotsky's students or collaborators which provide concrete examples of experimental procedures or results which the original text describes with extreme brevity. References to these sources are given in the notes.

In putting separate essays together we have taken significant liberties. The reader will encounter here not a literal translation of Vygotsky but rather our edited translation of Vygotsky, from which we have omitted material that seemed redundant and to which we have added material that seemed to make his points clearer. As other editors have noted, Vygotsky's style is extremely difficult. He wrote copiously and many of his manuscripts have never been properly edited. In addition, during frequent periods of illness he would dictate his papers—a practice which resulted in repetitions and dense or elliptical prose. Gaps in the original manuscripts make them even less accessible now than they might have been at the time they were written. Because proper references were rarely given, we have supplied our best guess as to the exact sources to which Vygotsky referred. The process of tracking down and reading these sources has itself proved a very rewarding enterprise; many of his contemporaries were fascinatingly modern in important respects. We realize that in tampering with the original we may have distorted history; however, we hope that by stating our procedures and by adhering as closely as possible to the principles and content of the work, we have not distorted Vygotsky's meaning.

We owe a special debt to the late Alexander R. Luria for providing an initial translation of much of the material included in chapters 1–5, for tirelessly tracking down references and expanding upon details of experiments, and for reading our manuscript. Chapters 6 and 7 were translated by Martin Lopez-Morillas. Chapter 5 and parts of chapters 1–5 were translated by Michael Cole. We wish to thank James Wertsch for his assistance in translating and interpreting especially difficult passages.

The editing of these writings has occupied us for several years. Working in separate locations, educated in differing intellectual traditions, each team of editors found certain material of special interest. Since there is not one but many issues to be illuminated by such a complex body of thought, we have written two essays reflecting various aspects of "reading Vygotsky."

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The spider carries out operations reminiscent of a weaver and the boxes which bees build in the sky could disgrace the work of many architects. But even the worst architect differs from the most able bee from the very outset in that before he builds a box out of boards he has already constructed it in his head. At the end of the work process he obtains a result which already existed in his mind before he began to build. The architect not only changes the form given to him by nature, within the constraints imposed by nature, he also carries out a purpose of his own which defines the means and the character of the activity to which he must subordinate his will.

Karl Marx, *Capital*

It is precisely *the alteration of nature by men,* not nature as such, which is the most essential and immediate basis of human thought.

Friedrich Engels, *Dialectics of Nature*

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Introduction

MICHAEL COLE AND SYLVIA SCRIBNER

Educated as a lawyer and philologist, Lev S. Vygotsky had already made several contributions to literary criticism when he began his career as a psychologist following the Russian Revolution in 1917. He was a student in the heyday of Wilhelm Wundt, the founder of experimental psychology, and William James, the American pragmatist. His scientific contemporaries included Ivan Pavlov, Vladimir Bekhterev, and John B. Watson, popularizers of stimulus-response theories of behavior, as well as Wertheimer, Köhler, Koffka, and Lewin, the founders of the Gestalt psychology movement. The reader might expect, then, that Vygotsky's work will prove to be primarily of historical interest—perhaps as a glimpse of the way in which modern psychology's founding fathers influenced Soviet psychology in postrevolutionary Russia. These essays are certainly of interest from the perspective of intellectual history, but they are not historical relics. Rather, we offer them as a contribution to quandaries and discussions in contemporary psychology.

In order to understand how the ideas in this volume can retain their relevance across the reaches of time and culture that separate us from Vygotsky, we have repeatedly found ourselves reflecting upon the state of European psychology which provided the initial setting for Vygotsky's theories. We have also found it helpful to examine the condition of psychology and society in postrevolutionary Russia, since they were the source of the immediate problems facing Vygotsky as well as a source of inspiration as he and his colleagues sought to develop a Marxist theory of human intellectual functioning.

NINETEENTH-CENTURY BEGINNINGS

Until the latter half of the nineteenth century the study of man's nature was the province of philosophy. The intellectual descendants of John Locke in England had developed his empiricist explanation of mind, which emphasized the origin of ideas from environmentally produced sensations. The major problem of psychological analysis for these British empiricists was to describe the laws of association by which simple sensations combine to produce complex ideas. On the continent the followers of Immanuel Kant argued that ideas of space and time and concepts of quantity, quality, and relation originate in the human mind and cannot be decomposed into simpler elements. Neither side budged from its armchair. Both of these philosophical traditions were operating under the assumption, dating from the work of René Descartes, that the scientific study of man could apply only to his physical body. To philosophy was assigned the study of his soul.

While the conflict between these two approaches reaches down to the present day, in the 1860s the terms of this discussion were changed irrevocably by the almost simultaneous publication of three books. Most famous was Darwin's *Origin of Species,* which argued the essential continuity of man and other animals. One immediate consequence of this assertion was an effort by many scholars to establish discontinuities that set human adults off from their lower relatives (both ontogenetically and phylogenetically). The second book was Gustav Fechner's *Die Psychophysik,* which provided a detailed, mathematically sophisticated description of the relation between changes in specifiable physical events and verbalizable "psychic" responses. Fechner claimed no less than an objective, quantitative description of the contents of the human mind. The third book was a slim volume entitled *Reflexes of the Brain,* written by a Moscow physician, I. M. Sechenov. Sechenov, who had studied with some of Europe's leading physiologists, had advanced understanding of simple sensory-motor reflexes by using techniques that isolated nerve–muscle preparations from the living organism. Sechenov was convinced that the processes he observed in the isolated tissue of frogs were the same in principle as those that take place in the central nervous systems of intact organisms, including humans. If responses of leg muscles could be accounted for by processes of inhibition and excitation, might not the same laws apply to the operations of the human cerebral cortex? Although he lacked direct evidence for these speculations, Sechenov's ideas suggested the physiological basis for linking the natural scientific study of animals with the heretofore philosophical

study of humans. The tsar's censor seemed to understand the revolutionary, materialist implications of Sechenov's thesis; he banned publication of the book for as long as he could. When the book appeared, it bore a dedication to Charles Darwin.

These books by Darwin, Fechner, and Sechenov can be viewed as essential constituents of psychological thought at the end of the nineteenth century. Darwin linked animals and humans in a single conceptual system regulated by natural laws; Fechner provided an example of what a natural law describing the relationship between physical events and human mental functioning might look like; Sechenov, extrapolating from muscle twitches in frogs, proposed a physiological theory of how such mental processes worked within the normally functioning individual. None of these authors considered themselves (or were considered by their contemporaries) to be psychologists. But they provided the central questions with which the young science of psychology became concerned in the second half of the century: What are the relationships between animal and human behavior? Environmental and mental events? Physiological and psychological processes? Various schools of psychology attacked one or another of these questions, providing partial answers within theoretically limited perspectives.

The first such school was established by Wilhelm Wundt in 1880. Wundt took as his task the description of the contents of human consciousness and their relation to external stimulation. His method consisted of analyzing various states of consciousness into their constituent elements, which he defined as simple sensations. On a priori grounds, he ruled out such sensations as "feelings of awareness" or "perception of relations" as elements of consciousness, considering these phenomena to be "nothing more than" the by-product of faulty methods of observation (introspection). Indeed, Wundt propounded the explicit view that complex mental functions, or as they were then known, "higher psychological processes" (voluntary remembering and deductive reasoning, for example), could not *in principle* be studied by experimental psychologists. They could only be investigated, he maintained, by historical studies of cultural products such as folktales, customs, and language.

By the beginning of World War I introspective studies of human conscious processes came under attack from two directions. In the United States and Russia psychologists discontented with the controversies surrounding *the* correct introspective descriptions of sensations, and with the sterility of the research this position had produced, renounced the study of consciousness in favor of the study of behavior. Exploiting the potential suggested by Pavlov's study of conditioned

reflexes (which built upon Sechenov) and Darwin's assertion of the continuity of man and beast, they opened up many areas of animal and human behavior to scientific study. In one important respect, however, they agreed with their introspective antagonists: their basic strategy was to identify the simple building blocks of human activity (substituting stimulus-response bonds for sensations) and then to specify the rules by which these elements combined to produce more complex phenomena. This strategy led to a concentration on processes shared by animals and humans and, again, to a neglect of higher processes—thought, language, and volitional behavior. The second line of attack on descriptions of the contents of consciousness came from a group of psychologists who objected to the one point upon which Wundt and the behaviorists agreed: the appropriateness of analyzing psychological processes into their basic constituents. This movement, which came to be known as Gestalt psychology, demonstrated that many intellectual phenomena (Köhler's studies with anthropoid apes were an example) and perceptual phenomena (Wertheimer's studies of apparent movement of flickering lights, for example) could not be accounted for in terms of either the basic elements of consciousness postulated by Wundt or simple stimulus-response theories of behavior. The Gestalt psychologists rejected, in principle, the possibility of accounting for complex processes in terms of simple ones.

Such, in great brevity, was the situation in European psychology when Vygotsky first appeared on the scene. The situation was not very different in Russia.

POSTREVOLUTIONARY PSYCHOLOGY IN RUSSIA

In the early decades of the twentieth century psychology in Russia, as in Europe, was torn between contending schools, each of which offered partial explanations of a limited range of phenomena. In 1923 at the first all-Russian psychoneurological congress K. N. Kornilov initiated the first major organizational and intellectual shift in psychology following the revolution. At that time the prestigious Institute of Psychology in Moscow was headed by G. I. Chelpanov, an adherent of Wundt's introspective psychology and a foe of behaviorism. (He had published the sixth edition of his book, *The Mind of Man*, a critique of materialist theories of the mind, in 1917, just before the revolution.) Chelpanov assigned a restricted role to Marxism in psychology, asserting it could help explain the social organization of consciousness but not the properties of individual consciousness. In a talk entitled "Contemporary

Psychology and Marxism" Kornilov criticized Chelpanov both for the idealistic basis of his psychological theory and for the restricted role he assigned to Marxism in psychology. Kornilov, who called his own approach reactology, sought to subsume all branches of psychology within a Marxist framework that used behavioral reactions as the basic data.

Kornilov's critique of Chelpanov in 1923 won the day. Chelpanov was removed as director of the Institute of Psychology and was replaced by Kornilov, who immediately brought together a corps of young scientists dedicated to formulating and promoting a behavioral, Marxist theory of psychology. Vygotsky must have produced quite a sensation one year later at the second psychoneurological meeting when he gave a talk entitled "Consciousness as an Object of the Psychology of Behavior." Whatever else one extracted from Kornilov's reactological approach, it quite clearly did not feature the role of consciousness in human activity, nor did it accord the concept of consciousness a role in psychological science.[1]

Vygotsky was dissenting from newly established authority. He was not, however, promoting a return to the position advocated by Chelpanov. In his initial speech and a series of subsequent publications, he made it clear that in his view none of the existing schools of psychology provided a firm foundation for establishing a unified theory of human psychological processes. Borrowing a phrase from his German contemporaries, he often referred to the "crisis in psychology" and set himself the task of achieving a synthesis of contending views on a completely new theoretical basis.

For Vygotsky's Gestalt contemporaries, a crisis existed because established theories (primarily Wundt's and Watsonian behaviorism) could not, in their view, explain complex perceptual and problem-solving behaviors. For Vygotsky, the crisis went much deeper. He shared the Gestalt psychologists' dissatisfaction with psychological analysis that began by reducing all phenomena to a set of psychological "atoms." But he felt that the Gestalt psychologists failed to move beyond the description of complex phenomena to the explanation of them. Even if one were to accept the Gestalt criticisms of previous approaches, a crisis would still exist because psychology would remain split into two irreconcilable halves: a "natural science" branch that could explain elementary sensory and reflex processes, and a "mental science" half that could describe emergent properties of higher psychological processes. What Vygotsky sought was a comprehensive approach that would make possible description *and* explanation of higher psychological functions in terms acceptable to natural science. To Vygotsky, explana-

tion meant a great deal. It included identification of the brain mechanisms underlying a particular function; it included a detailed explication of their developmental history to establish the relation between simple and complex forms of what appeared to be the same behavior; and, importantly, it included specification of the societal context in which the behavior developed. Vygotsky's goals were extremely ambitious, perhaps unreasonably so. He did not achieve these goals (as he was well aware). But he did succeed in providing us with an astute and prescient analysis of modern psychology.

A major reason for the continued relevance of Vygotsky's work is that in 1924 and the following decade he constructed a penetrating critique of the notion that an understanding of the higher psychological functions in humans can be found by a multiplication and complication of principles derived from animal psychology, in particular those principles that represent the mechanical combination of stimulus-response laws. At the same time he provided a devastating critique of theories which claim that the properties of adult intellectual functions arise from maturation alone, or are in any way preformed in the child and simply waiting for an opportunity to manifest themselves.

In stressing the social origins of language and thinking, Vygotsky was following the lead of influential French sociologists, but to our knowledge he was the first modern psychologist to suggest the mechanisms by which culture becomes a part of each person's nature. Insisting that psychological functions are a product of the brain's activity, he became an early advocate of combining experimental cognitive psychology with neurology and physiology. Finally, by claiming that all of these should be understood in terms of a Marxist theory of the history of human society, he laid the foundation for a unified behavioral science.

MARXIST THEORETICAL FRAMEWORK

Contrary to the stereotype of Soviet scholars scurrying to make their theories conform to the Politburo's most recent interpretation of Marxism, Vygotsky clearly viewed Marxist thought as a valuable scientific resource from very early in his career. "A psychologically relevant application of dialectical and historical materialism" would be one accurate summary of Vygotsky's sociocultural theory of higher mental processes.

Vygotsky saw in the methods and principles of dialectical materialism a solution to key scientific paradoxes facing his contemporaries. A central tenet of this method is that all phenomena be studied as processes

in motion and in change. In terms of the subject matter of psychology, the scientist's task is to reconstruct the origin and course of development of behavior and consciousness. Not only does every phenomenon have its history, but this history is characterized by changes both qualitative (changes in form and structure and basic characteristics) and quantitative. Vygotsky applied this line of reasoning to explain the transformation of elementary psychological processes into complex ones. The schism between natural scientific studies of elementary processes and speculative reflection on cultural forms of behavior might be bridged by tracing the qualitative changes in behavior occuring in the course of development. Thus, when Vygotsky speaks of his approach as "developmental," this is not to be confused with a theory of child development. The developmental method, in Vygotsky's view, is the central method of psychological science.

Marx's theory of society (known as historical materialism) also played a fundamental role in Vygotsky's thinking. According to Marx, historical changes in society and material life produce changes in "human nature" (consciousness and behavior). Although this general proposition had been echoed by others, Vygotsky was the first to attempt to relate it to concrete psychological questions. In this effort he creatively elaborated on Engels' concept of human labor and tool use as the means by which man changes nature and, in so doing, transforms himself. In chapters 1 through 4 below, Vygotsky exploits the concept of a tool in a fashion that finds its direct antecedents in Engels: "The specialization of the hand—this implies the *tool,* and the tool implies specific human activity, the transforming reaction of man on nature";[2] "the animal merely *uses* external nature, and brings about changes in it simply by his presence; man, by his changes, makes it serve his ends, *masters it.* This is the final, essential distinction between man and other animals" (p. 291). Vygotsky brilliantly extended this concept of mediation in human–environment interaction to the use of signs as well as tools. Like tool systems, sign systems (language, writing, number systems) are created by societies over the course of human history and change with the form of society and the level of its cultural development. Vygotsky believed that the internalization of culturally produced sign systems brings about behavioral transformations and forms the bridge between early and later forms of individual development. Thus for Vygotsky, in the tradition of Marx and Engels, the mechanism of individual developmental change is rooted in society and culture.

In later chapters (especially chapter 5) Vygotsky generalizes his conception of the origin of higher psychological functions in a way that

reveals the close relationship between their fundamentally mediated nature and the dialectical, materialist conception of historical change.

Citations of Marxist classics were sometimes used to excess by certain Soviet psychologists as they sought a means for building a Marxist psychology from the chaos of competing schools of thought. Yet in unpublished notes Vygotsky repudiated the "quotation method" of relating Marxism to psychology and made explicit the way in which he thought its basic methodological principles might contribute to theory-building in psychology:

> I don't want to discover the nature of mind by patching together a lot of quotations. I want to find out how science has to be built, to approach the study of the mind having learned the whole of Marx's *method.* . . . In order to create such an enabling theory-method in the generally accepted scientific manner, it is necessary to discover the essence of the given area of phenomena, the laws according to which they change, their qualitative and quantitative characteristics, their causes. It is necessary to formulate the categories and concepts that are specifically relevant to them—in other words, to create one's own *Capital.*
>
> The whole of *Capital* is written according to the following method: Marx analyzes a single living "cell" of capitalist society—for example, the nature of value. Within this cell he discovers the structure of the entire system and all of its economic institutions. He says that to a layman this analysis may seem a murky tangle of tiny details. Indeed, there may be tiny details, but they are exactly those which are essential to "micro-anatomy." Anyone who could discover what a "psychological" cell is—the mechanism producing even a single response—would thereby find the key to psychology as a whole. [from unpublished notebooks]

A careful reading of this manuscript provides convincing proof of both Vygotsky's sincerity and the fruitfulness of the framework he developed.

THE INTELLECTUAL AND SOCIAL SETTING

Developmental and historical approaches to the study of human nature were not unique to Vygotsky in the Soviet Union in the 1920s. Within psychology, an older colleague, P. P. Blonsky, had already adopted the position that an understanding of complex mental functions requires developmental analysis.[8] From Blonsky Vygotsky adopted the notion that "behavior can be understood only as the history of behavior." Blonsky was also an early advocate of the view that the technological activities of people were a key to understanding their psychological makeup, a view that Vygotsky exploited in great detail.

Vygotsky and many other Soviet theorists of the day were also heavily influenced by the work of western European sociologists and anthropologists, like Thurnwald and Levy-Bruhl,[4] who were interested in the history of mental processes as reconstructed from anthropological evidence of the intellectual activity of primitive peoples. The scant references in this book are a pale reflection of the extent of Vygotsky's interest in the development of mental processes understood historically. This aspect of his work received special attention in a publication titled *Studies in the History of Behavior* published jointly with A. R. Luria in 1930. It served as the impetus for Luria's two expeditions to Central Asia in 1931 and 1932, the results of which were published long after Vygotsky's death.[5]

This historical emphasis was also popular in Soviet linguistics, where interest centered on the problem of the origin of language and its influence on the development of thought. Discussions in linguistics dealt with concepts similar to Vygotsky's and also similar to the work of Sapir and Whorf, who were then becoming influential in the United States.

While an acquaintance with academic issues of the 1930s is helpful to understanding Vygotsky's approach to human cognition, a consideration of sociopolitical conditions during this time in the Soviet Union is essential as well. Vygotsky worked within a society that put a premium on science and had high hopes for the ability of science to solve the pressing economic and social problems of the Soviet people. Psychological theory could not be pursued apart from the practical demands made on scientists by the government, and the broad spectrum of Vygotsky's work clearly shows his concern with producing a psychology that would have relevance for education and medical practice. For Vygotsky, the need to carry on theoretical work in an applied context posed no contradiction whatsoever. He had begun his career as a teacher of literature, and many of his early articles had dealt with problems of educational practice, especially education of the mentally and physically handicapped. He had been a founder of the Institute of Defectology in Moscow, with which he was associated throughout his working life. In such medical problems as congenital blindness, aphasia, and severe mental retardation Vygotsky saw opportunities both for understanding the mental processes of all people and for establishing programs of treatment and remediation. Thus, it was consistent with his general theoretical view that his work should be carried out in a society that sought the elimination of illiteracy and the founding of educational programs to maximize the potential of individual children.

Vygotsky's participation in the debates surrounding the formulation