Introduction

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Educated as a lawyer and philologist, Lev Vygotski 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 Paulov, Vladimir Bekterev, and John B. Watson, popularizers of stimulus-response theories of behavior, as well as Wertheimer, Köller, 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—prehaps 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 relies. Rather, we offer them as a contribution to quandaries and discussion 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 Lock in England had developed his empiricist explanation of mind, wich 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 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 Psychologist, 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 be 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 processes and deductive reasoning, for example), could not in principal be studied by experimental psychologists. They could only be investigated, be maintained, by historical studies of cultural products such 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 Paulov´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 in scientific study. In one important respect, however, they argued 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 (Köller´s studies with

anthropoids apes were an example) and perceptual phenomena (Wertheimer´s studies of apparent movement of flickering lights, for example) could not be accounted in terms of either the basic elements of consciousness postulated by Wundt or simple stimulus-response theories 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 psychological 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 leaded 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 rule 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 basis 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.

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 Vygosty´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 crisis went much deeper. He shared the Gestalt psychologistis´dissaisfaction 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, explanation meant a great deal. It included identification of 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 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 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 in 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 occurring 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"; "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 internationalization 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 relatiohship 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 theorybuilding 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 thios analysis may seem a murky tangle of tiny details. Indeed, there may be tiny details, but they are exactly those which are essential to "microanatomy." 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 1920s. Within psychology, an older colleaghe P.P. Blonsky, had already adopted the position that an understanding of complex mental functions requires developmental analysis.

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 LevyBruhl, 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.

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 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 Vygosky sought 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 founding of educational programs to maximize the potential of individual children.

Vygotsky´s participation in the debates surrounding the formulation of a Marxist psychology embroiled him fierce disputes in the late 1920s and early 1930s. In these discussions ideology, psychology, and policy were intricately intertwined, as different groups vied for the right to represent psychology. With Kornilov´s ouster from the Institute of Psychology in 1930, Vygotsky and his students were for brief time in the ascendancy, but he was never recognized as the official leader.

In the years just prior to his death Vygotsky lectured and wrote extensively on problems of education, often using the terms “pedology,” which roughly translates as "educational psychology.” In general, he was scornful of pedology that emphasized tests of intellectual ability patterned after the IQ tests then gaining prominence in western Europe and the United States. It was his ambition to reform pedology along the lines suggested in chapter 6 in this volume, but his ambition far exceeded his grasp. Vygotsky was mistakenly accused of advocating mass psychological testing and criticized as a “Great Russian chauvinist” for suggesting that nonliterate peoples (such those living in nonindutrialized section of central Asia) had not yet developed the intellectual capacities associated with modern civilization. Two years later his death the Central Committee of the Communist Party issued a decree halting all psychological journals ceased publication for almost twenty years. A period of intellectual ferment and experimentation was at an end.

But by no means did Vygotsky´s ideas die with him. Even before his death he and his students established a laboratory in Kharkov headed by A. N. Leontiev (currently Dean of the Psychology Faculty at Moscow University) and later A. V. Zaporozhets (now Director of the Institute of Preschool Education). Luria completed his medical training in the latter half of the 1930s and went on to carry out his world famous pioneering work in developmental and neuropsychology. Many of Vygotsky´s former students hold leading positions in the Institute of Defectology and the Institute of Psychology within the Soviet Academy of

Pedagogical Sciences, as well as university departments of psychology such as that at Moscow University.

As inspection of any compendium of Soviet psychological research will show, Vygotsky continued and continues to influence research in a wide variety of basic and applied areas related to cognitive processes, their development and dissolution. His ideas have not gone unchallenged, even by his students, but they remain a living part of Soviet of Psychological thought.

VYGOTSKY´S USE OF THE EXPERIMENTAL METHOD

Vygotsky´s references in the text to experiments conducted in his laboratory sometimes leave readers with a sense of unease. He presents almost no raw data and summaries are quite general. Where are the statistical tests that record whether or not observations reflect "real" effects? What do these studies prove? Do they in fact lend any support to Vygotsky´s general theories, or is he, in spite of his disclaimers, conducting psychology in a speculative manner without subjecting his central propositions to empirical test? Those steeped in the methodology of experimental psychology as practiced in most American laboratories may be inclined to withhold the term "experiment" from vygotsky´s studies and consider them to be little more than interesting demonstrations or pilot studies. And so, in many respects, they were.

We have found it useful to keep in mind the nature of the manuscripts that are the basis of this book. They do not constitute a report of a series of research studies from which general propositions are extrapolated. Rather, in these writings Vygotsky was concerned with presenting the basic principles of his theory and method. He drew upon the very limited pool of empirical work available to him in order to illustrate and support these principles. The description of specific studies is schematic and findings are often given as general conclusions rather than as raw data. Some of the studies referred to have been published in greater detail by his students and a few are available in English. Most studies, however, were conducted by students as pilot investigations and were never prepared for publication. Vygotsky´s laboratory existed for only a decade and his death from tuberculosis was expected at any time. The implications of his theory were so many and varied, and time was so short, that all energy was concentrated on opening up new lines of research. However, the style of experimentation in these essays represents more than a response to the urgent conditions in which they were conducted. Vygotsky´s concept of the experiment differed from that of American psychology, and understanding this difference is

important for an appreciation of Vygotsky´s contribution to contemporary cognitive psychology.

As every student of an introductory experimental course knows, the purpose of an experiment as conventionally presented is to determine the conditions controlling behavior. Methodology follows from this objective: the experimental hypothesis predicts aspects of the stimulus materials or task that will determine particular aspects of the response; the experimenter seeks maximum control over materials, task, and response in order to test the prediction. Quantifications of responses provide the basis for comparison across experiments and for drawing inferences about cause-and-effect relationships. The experiment, in short, is designed to produce a certain performance under conditions that maximize its interpretability.

For Vygotsky, the object of experimentation is quite different. The principles of his basic approach (presented in chapter 5 of this volume do not stem from a purely methodological critique of established experimental practices; they flow from his theory of the nature of higher psychological processes and the task of scientific explanation in psychology. If higher psychological processes arise and undergo changes in the course of learning and development, psychology will only fully understand them by determining their origin and mapping their history. At first sight it would appear that such a task precludes the experimental method and requires study of individual behavior over long periods of times. But Vygotsky believed (and ingeniously demonstrated) that the experiment could serve an important role by making visible processes that are ordinarily hidden beneath the surface of habitual behavior. He wrote that in a properly conceived experiment the investigator could create processes that "telescope the actual course of development of a given function." He called this method of investigation the "the experimental-genetic" method, a term he shared with Heinz Werner, an outstanding contemporary whose developmental, comparative approach to psychology was well-known to Vygotsky.

To serve as an effective means of studying "the course of development of processes," the experiment must provide maximum opportunity for the subject to engage in a variety of activities that can be observed, not just rigidly controlled. One technique Vygotsky effectively used for this purpose was to introduce obstacles or difficulties into the task that disrupted routine methods of problem solving. For example, in studying children´s communication and the function of egocentric speech Vygotsky set up a task situation that required children to engage in cooperative activity with others who did not share their language (foreign-speaking or deaf children). Another method was to provide alternative routes to problem solving, including a variety of materials (Vygotsky called them "external aids") that could be used in different ways to satisfy the demands of the task. By careful observation of the uses made of these external aids by children

at different ages under different conditions of task difficulty. Vygotsky sought to reconstruct the series of changes in intellectual operations that normally unfold during the course of the child´s biographical development. A third technique was to set a task before the child that exceeded his knowledge and abilities, in order to discover the rudimentary beginnings of new skills. This procedure is well illustrated in studies on writing (chapter 7), in which young toddlers were provided with pencil and paper and asked to make representations of events, thus disclosing to the investigator the child´s earliest understanding of the nature of graphic symbolism.

With all these procedures the critical data furnished by the experiment is not performance level as such but the methods by which the performance is achieved. The contrast beween conventional experimental work (focusing on performance) and Vygotsky´s work (focusing on process) has its contemporary expression in recent studies on children´s memory by American investigators. Many studies (including a number of our own) have presented children of various ages with lists of words to be remembered and have analyzed such performance measures as number of words recalled and the order of recall. From these indicators the investigators have sought to make inferences about whether or not, and to what extent, young children engage in organizing activities as a memory strategy. On the other hand, Jhon Flavell and his colleagues, using procedures very much like those of Vygotsky´s students, provided children the materials to be remembered, and instructed them to do whatever they wanted to help them remember. They then observed children´s attempts at classifying the items, the kinds of grouping they made, and other indices of children´s tendency to use organizational strategies in remembering. As with Vygotsky, the central question is: What are the children doing? How are they trying to satisfy task demands?

In this connection we would like to clarify a basic concept of Vygotsky´s theoretical approach and experimental method that we believe has been widely misinterpreted. In several places in the text Vygotsky, in referring to the structure of behavior, uses a term that we have translated as “mediated.” Occasionally this term is accompanied by a figure depicting a stimulus, a response, and a “mediating link” between them (for example, S-X-R). The same term, and virtually the same diagram, were introduced in American learning theory in the late 1930s and became very popular in the 1950s as attempts were made to extend stimulus-response theories of learning to complex human behavior, especially language. It is important to keep in mind that Vygotsky was a stimulus-response learning theorist and did not intend his idea of mediated behavior to be thought of in this context. What he did not intend to convey by this notion was that in higher forms of human behavior, the individual actively modifies the stimulus situation as a part of the process of responding to it. It was the entire structure of

this activity which produced the behavior that Vygotsky attempted to denote by the term “mediating.”

Several implications follow from Vygotsky´s theoretical approach and method of experimentation. One is that experimental results will be qualitative as well as quantitative in nature. Detailed descriptions, based on careful observation, will constitute an important part of experimental findings. To some, such findings may seem merely anecdotal; Vygotsky maintained that if carried out objectively and with scientific rigor, such observations have the status of validated fact.

Another consequence of this new approach to experimentation ist to break down some of the barriers that are traditionally erected between “laboratory” and “field.” Experimental interventions and observations may often be as well or better executed in play, school, and clinical settings than in the psychologist´s laboratory. The sensitive observations and imaginative interventions reported in this book attest to this possibility.

Finally, an experimental method that seeks to trace the history of the development of psychological functions sits more comfortably than the classical method alongside other methods in the social sciences concerned with history—including the history of culture and society as well as the history of the child. To Vygotsky, anthropological and sociological studies were partners with observation and experiment in the grand enterprise of accounting for the progress of human consciousness and intellect.