A CRITIQUE OF VYGOTSKIAN SCHOLARSHIP IN WRITING AND LITERACY STUDIES: THE ROLE OF MARXIST DIALECTICS IN THE DISCUSSIONS OF METHOD

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# TABLE OF CONTENTS

**ACKNOWLEDGMENTS**…………………………………………………….v

**INTRODUCTION: Problem statement**……………………………………1

**Chapter**

I. An overview of Lev Vygotsky’s cultural-historical theory of human psychological development…………………………………………………….14

II. Applications of Lev Vygotsky’s Cultural-Historical Psychology and Alexei Leont’ev’s activity theory in writing studies…………………………………………………………………34

- Witte: A critical examination of Leont’ev’s activity theory and its relation to Vygotsky’s original framework………………34
- Russell: Reification of the concept of activity…………68
- Zebroski: Mediation as a conceptual foundation for overcoming the mind-body divide in the humanities…………………………………………………………...97
- Bazerman and Smagorinsky: Attempts to achieve an amalgamation of Vygotsky’s and Leont’ev’s theoretical ideas with other explanatory paradigms………………………………………………………..112

III. Chapter IV: Marxist dialectics for scientific analysis……129

IV. Chapter V: The unit of analysis and the dialectical method in social and psychological studies: Lev Vygotsky’s theoretical framework, its relation to activity theory……………………………………………………….158

- Dialectics and the choice of the unit of analysis in literacy and writing studies………………………………………………………….158
- Inattention to the role of Marxist dialectics in Lev Vygotsky’s cultural-historical psychology: Sylvia Scribner’s account……………………………………………………….165

- The relationship between Lev Vygotsky’s cultural-historical psychology and A. N. Leont’ev’s activity theory…………………………………………………………183
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This dissertation work is my personal, modest contribution to the legacy of Dr. Stephen Witte who founded the Program in Literacy, Rhetoric, and Social Practice at the English Department of Kent State University. When I first met him, we discovered a common interest in the works of Russian psychologist Lev Vygotsky who formulated a cultural-historical theory of human psychological development Dr. Witte was intrigued by the parallels that he saw between social constructionism and Vygotsky’s theory which, in Dr. Witte’s opinion, could lead to a formulation of a robust theoretical position and a comprehensive research program into various areas of human literate functioning. Regrettably, fate had other plans for my aspirations to study under Dr. Witte: he succumbed to a severe illness shortly after I joined the program. This dissertation is my attempt to help build a more robust theoretical position in the field – inspired by Professor Witte.

I would also like to express my sincere gratitude to my Dissertation Director, Professor Raymond Craig without whose patience and guidance this work would not have come to fruition. I am equally indebted to my dissertation committee and outside readers – Professors Brian Huot, Pamela Takayoshi, James Zebroski, Kevin Floyd, and Kenneth Bindas – for their suggestions and intellectual challenge.
INTRODUCTION: Problem statement

James Zebroski (1998) wrote about a chasm dividing theoreticians in English departments. He argued that while the majority of them were embracing post-modernist scholarship, little attention was paid to linking such theorizing to actual writing practices that took place both inside and outside the composition classroom. To counteract these trends, Zebroski called for “a theory of theory in composition” (1998, p. 32). The need for such a meta-discourse, a meta-theory of writing activity and, more generally, literate functioning, continues to be pressing. This is evident from the sheer number of explanatory paradigms that have had currency in the field of rhetoric and composition. These include, but are not limited to, *symbolic interactionism* (e.g. Goffman [1959]), *discourse analysis* (e.g. Gee [1999], Schiffrin, Tannen, and Hamilton [2001]), *distributed cognition and learning* (e.g. Lave [1988], Hutchins [1995], Russell [2002]), *genre theory* (Derrida [2000], Bakhtin [1994], Swales [1990], Bazerman [1995], Chandler [2002], Gee [1992]), *classical and neo-classical rhetoric* (Aristotle, Plato, Cicero, Burke [1962], Perelman [1969], Bitzer [1968], Campbell [1961], Toulmin [1958], Richards [1965], MacLuhan [1964, 1967, 1970, 1988]), *multimodality, visual rhetoric, and digital literacy* e.g. (Kress, G. [2000], Cope et al. M. [2000]), *gender and race studies, and feminist rhetoric* e.g. (Barron [1996], Adams [2001]), *grounded theory* (e.g. Glaser and Strauss [1967], Clarke [2005]), *actor network theory* (Latour [1987]), *narrative studies, ethnographies and community literacy* (e.g. Harris [1988], Heath [1993], Brandt [2001]), and *ethnomethodology, ethnophilosophy, and conversation studies* (e.g. Garfinkel [1967, 2002], Suchman [1987]).
Earlier Zebroski (1983) drew a much more pessimistic characterization of the situation, regarding competing research methodologies in the field of writing and literacy studies. He described the state of affairs within the discipline as theoretical eclecticism, a viewpoint holding that all philosophical or methodological systems are of value because some measure of the truth is likely to be found in all of them. Zebroski’s indictment of this position was nothing short of scathing:

If it is argued that two approaches coming from completely opposite and contradictory premises and sets of assumptions are equally valid, are equally acceptable in some respect, then one can also argue that they can be just equally invalid. If they are equally invalid, then theory is simply the playing of a very stupid intellectual game, a game that only academics isolated from the real world have the time to engage in. Thus an eclectic theoretical approach basically leads to practice alone, practice unguided by theory, practice that is always accepting whatever “works.” (Zebroski, 1983, pp. 19-20)

While the methodological diversity in theory making that is obvious from the overview given above is, in a sense, commendable, it also precludes the field from articulating a comprehensive theoretical position. The situation is exacerbated by the institutional forces that tacitly endorse certain methodological orientations. For example, Richard Haswell (2005) maintains that empirical research that relies on overarching theoretical paradigms, hard data, and rigorous analysis procedures has been falling out of favor:

My topic concerns the two flagstaff houses of postsecondary writing teachers: the National Council of Teachers of English (NCTE; established in 1911) and the Conference on College Composition and Communication (CCCC; established in 1949). They have been at scholarship for a long time. Only in the past two decades have they been at war with it. It might be more accurate to say that they have been at war with part of it, but if that part turns out to be vital to the whole, then with its defeat falls the whole. The scholarship these organizations target goes by different names: empirical inquiry, laboratory studies, data gathering, experimental investigation, formal research, hard research, and sometimes just research. (Haswell, 2005, pp. 199-200)

Moreover, Haswell (2005) suggests that, historically, the kind of writing scholarship that have ventured into questions of scientificity and epistemology have received less institutional attention
than other kinds of scholarly work. Even though some may argue that this has been changing of late, the lack of scientific emphasis in the field still persists, which is reflected in its relative stature in academia:

Right now, rhetoric and composition is not a category in the National Research Council classification of disciplines used by accrediting agencies, nor a numerical code in its Annual Survey of Earned Doctorates, nor a category in the Chronicle of Higher Education for new academic books, nor a field used by the National Endowment for the Humanities for grants. (Haswell, 2005, p. 219)

Even though the discipline has recently made important steps to full institutional recognition, Haswell’s argument still implies that the dominant sentiment in the field has been one of apprehension concerning theory building and philosophical questions of scientificity. Furthermore, he argues that the problems of the discipline of writing studies are not limited to theoretical eclecticism (Zebroski, 1983), but extend to its institutional status: as evident from his opinion, two major administrative bodies do not recognize it as a legitimate field. Haswell’s plea, however, is one of reconciliation; he calls for equality in diversity, arguing that all methodological flavors should enjoy equal institutional support. On the other hand, his position with respect to empirical methodologies and scientific rigor is less placatory. Haswell suggests that the canonical scientific method is well established historically in all branches of science and, as such, does not require justification or theoretical defense:

My argument, therefore, begins with the assumption that a method of scholarship under attack by one academic discipline in the United States but currently healthy and supported by every other academic discipline in the world does not need defending. It also assumes that other kinds of scholarship, currently underwritten by NCTE/CCCCC, do not need defending either. (Haswell, 2005, p. 211)

On the example of Zebroski (1983) and Haswell (2005) we observe that while methodological diversity can be declared, it does not always become a fact of life. Moreover, the notion of diversity may not be applicable in the questions of science whose very nature discourages
pluralism of opinion. We should not assume that the canonical scientific method constitutes a firm foothold in the search for the ultimate scientific truth. For example, Karl Popper (2002) argues forcefully in favor of the inherently incomplete nature of research findings and the irreducibly hypothetical nature of human knowledge. To complicate things even further, Bruno Latour (1987) demonstrates convincingly that science is fundamentally a social process whose growth resembles that of a culture, rather than the developmental path of an abstract theoretical system. If we combine these outlooks, we will have to conclude that a proper theoretical description of human social functioning must account equally well both for the laws and regularities present in reality and the psychological laws that make theoretical activity of the mind possible in the first place. Human sciences stand at an important crossroads with respect to other scientific endeavors because they seek to illuminate the point from which all research originates – the nature of man. The complexity of the object of their study calls for the kind of methodological rigor that takes into account this complexity. The aim of this work is to address some of these methodological concerns. Methodology is important because it is inescapable. Even if we choose to deny attention to epistemology and methodology, we will still be making implicit choices in this area, but in this case their influence on our research will be surreptitious and unreasoned. Because a methodological and epistemological orientation is always present, the main challenge of research becomes the formulation of a conceptual framework that is consistent and generative within the chosen methodological paradigm. Attempts at using Vygotsky’s and Leont’ev’s theoretical ideas in contemporary research are one of the possible responses to this challenge. Yet, a proper application of these theoretical frameworks, as it is argued above, is impossible without understanding the methodological basis of Vygotsky’s and Leont’ev’s work: Marxist dialectics. The goal of this work is elaborate this important dimension of their theorizing and assess the degree to which this dimension is taken into account in composition and literacy
scholarship. At the same time the dissertation will try to refrain from pursuing the institutional arguments, understood in the sense in which they appear in Haswell’s (2005) discussion. Our focus will on purely theoretical issues to analyze the specific appropriations of Vygotsky’s and Leont’ev’s ideas in writing and literacy scholarship, aiming to trace down the roots of difficulties that such appropriations entail. The ultimate goal of the analysis will be to treat the epistemological foundation of Vygotsky’s and Leont’ev’s work that determines its methodology. Again, we will try to carry out these two tasks in close conjunction, but we will also try to preserve the emphasis on the specific sources of difficulties that arise in interpretations of cultural-historical psychology and activity theory in the U.S., while refraining from discussing the wider implications and merits of these theoretical positions in the current research climate. Naturally, we will speculate about the allocation of methodological emphases, following from Vygotsky’s and Leont’ev’s theories. For the moment, however, it would be appropriate if we precede these considerations by citing Vygotsky’s point of view with respect to theory building:

We see that the tendency to generalize and unite knowledge turns or grows into a tendency to explain this knowledge. The unity of the generalizing concept grows into the unity of the explanatory principle, because to explain means to establish a connection between one fact or a group of facts and another group, to refer to another series of phenomena. For science to explain means to explain causally. As long as the unification is carried out within a single discipline, such an explanation is established by the causal linkage of the phenomena that lie within a single area. But as soon as we proceed to the generalization across different disciplines, the unification of different areas of facts, the generalization of the second order, we immediately search for an explanation of a higher order as well, i.e., we must search for the link of all areas of the given knowledge with the facts that lie outside of them. In this way the search for an explanatory principle leads us beyond the boundaries of a given science and compels us to find the place of the given area of phenomena amidst the wider circle of phenomena.

This second tendency, which is the basis of the isolation of a general science, is the tendency toward a unified explanatory principle and towards transcending the borders of a given science into the search for the place of the given category of being within the general system of being and the given science within the general system of knowledge. (Vygotsky, 1987, vol. 3, p. 240)
It is clear that Vygotsky considers overarching theories to be of great importance in scientific inquiry. Moreover, such theories must be generative, i.e. have provisions for interfacing it with the rest of human knowledge. Conversely, all theories in the particular branches of knowledge must be subsumed by an overarching philosophical framework that delineates the most general laws of being. The conceptual framework of human knowledge must be scalable by the degree of generality of its key constructs, with these constructs forming a hierarchical system. In Vygotsky’s theoretical framework, the conceptual requirements to research revolve around the issue of selecting an appropriate unit of analysis – a phenomenon or a set of phenomena that reveal the essential properties of the object of study. Generally, only the units of analysis that are (a) irreducible, (b) finite and complete, and (c) reproducible are acceptable. We can see from this short passage that Vygotsky’s methodological position places the study of human nature and activities within the scope of general scientific exploration of nature. Once again, in order to evaluate the uses of Vygotsky’s and Leont’ev’s work, we will have no other choice but to proceed on the assumption that the exigencies of the scientific method possess a degree of axiomatic value.

It is now time to address, perhaps, the most important question, namely the place which my project seeks to occupy in disciplinary discourse. Obviously, the driving force behind this dissertation is the perceived implicit value in using Vygotsky’s work in writing theory. I undertake this project on the assumption that Vygotsky’s and Leont’ev’s ideas have clearly found their way into writing studies in the U.S. This assumption is based on the detailed treatments of the respective theoretical position in writing scholarship that have been chosen for examination. I speak of the seminal work done by Stephen Witte (1998, 2005) and Robert Bracewell and Witte (2003) as well as David Russell (1995, 1997, 2002), Zebroski (1983, 1994), Charles Bazerman
whose uses of Vygotsky’s cultural-historical theory and Leont’ev’s activity theory will receive the most commentary. However, I will also keep in mind and draw upon the second echelon of scholarship represented by such prominent names as Sylvia Scribner and Michael Cole (1981) and Scribner (1997), Yrjö Engeström and Vladislav Lektorski (1990), Engeström et al (1999), and others. Nevertheless, I do not mean to suggest that the latter works are secondary in importance; on the contrary, they also represent a detailed and nuanced treatment of Vygotsky’s and Leont’ev’s theoretical legacies, in many cases supported with extensive experimental work.

The criterion for selecting scholarship for analysis that I have in mind is the directness and the closeness of the authors’ ties to writing theory because the primary audience for my intended project comes from this background. The implicit goal, however, is not to create a historical account of the passage that Vygotsky’s and Leont’ev’s ideas have taken to arrive at the academic scene in the U.S., or more narrowly, retrace their lineage in the discipline of rhetoric and composition. Such work has already been undertaken in sufficient depth by Zebroski (1994) who devoted an entire chapter of his volume to this important task. Arguably, it is more important to uncover the methodological roots of Russian psychology to make sure that one’s understanding of its premises is complete. Zebroski (1998) comes tantalizingly close to appreciating these roots when he speaks of the philosophy of internal relations as a productive epistemological position for research in the field of composition. The construct of internal relations comes from Ollman (1993) who, in turn, appropriates it from Marx: “The philosophy of internal relations … asserts and assumes that all inner processes are parts of outer processes, that, in fact, outer and inner are only relative terms in a dynamic and constantly changing world” (Zebroski, 1998, p. 35).

However, Zebroski makes no mention of the fact that in the name of the philosophy of internal relations we are dealing with Marxist materialist dialectics. Marxist dialectics is the philosophical
foundation of Vygotsky’s work. The important mission of this dissertation is to unpack the meaning of this argument and explain its implications for uses of Russian psychological theory in composition and literacy research.

The arrival of Vygotsky’s cultural-historical psychology in the discipline of rhetoric and composition dates back to the mid-1980s: “In the mid-1980s a significant shift occurred as researchers of young children’s writing began to heed the work of Vygotsky (1934/1962, 1978), who argued that once language begins (at about the age of 2), language and thought are inextricably related” (Chapman in Smagorinsky, 2006, p. 16). The adoption of Vygotsky’s ideas began with a concept that is somewhat peripheral to his theoretical system – the zone of proximal development – but has a pivotal importance in practical applications of Vygotsky’s theory in educational practice:

The growth of qualitative research in writing appears to go hand in hand with researchers’, if not teachers’, perceptions of writing as socially situated and with the theorists they use to elucidate their ideas, primarily Vygotsky (1978) and Bakhtin (1981). Indeed, these two theorists seem to have had enormous impact on some of the most important studies of literacy, for example, Nystrand (1997), Langer (2001), Johnson, Smagorinsky, Thompson, and Fry (2003), and Lee and Smagorinsky (2000). The developmental theory of Piaget, which was so important 20 years before, has all but vanished from the pages of research. The disappearance indicates a profound shift in thinking about writing. In the 1960s and 1970s many researchers and theorists, adopting the theories of Piaget and others, assumed that “if a child’s mental functions (intellectual operations) have not matured to the extent that he is capable of learning a particular subject, then no instruction will prove useful (Vygotsky, 1978, p. 80). But Vygotsky makes a strong case that “learning results in mental development” and makes development possible (p. 90). He argues that learning takes place in the “zone of proximal development,” defined as “the distance between the actual development level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers” (p. 86). (Hillock in Smagorinsky, 2006, p. 49)
Continued interest in what Vygotsky’s cultural-historical psychology had to offer theoretically and practically saw its influence spread beyond pedagogical practice and into mainstream literacy research: “Building on the work of Vygotsky (1978), many educational and literacy researchers investigate how knowledge of particular groups’ literacy and cultural practices (‘funds of knowledge’) can inform and transform what happens in classrooms” (Cushman, Barbier, Mazak, and Petrone in Smagorinsky, 2006, p. 206). Witte’s (1998, 2005) work that will be examined in much detail here interrogated Vygotsky’s and Leont’ev’s theoretical positions from the standpoint of methodology, trying to determine their applicability to hands-on literacy research that extends beyond the classroom: “Daly and Witte, with background in communication and rhetoric, wished to view writing beyond the bounds of the classroom and edited Written Communication with the intention of publishing research on writing regardless of site or pedagogical implications” (Smagorinsky, 2006, p. 7). On the other hand, a number of authors such as Russell (1995, 1997, and 2002) continued to adopt Vygotsky’s or Leont’ev’s theoretical postulates with classroom applications in mind. However, the dichotomy thus established has been rather productive:

These developments helped to establish the importance of studying how people write at work, where specific genres such as the business memo distill the cultural values of the workplace, require knowledge of discourse, are intended to communicate high-stakes information, and otherwise bring into play extensive social networks of knowledge and relationships that are played out though the production of the memo. Significantly, the knowledge required to write the memo departs radically from the kinds of writing taught and values in college, further contributing to writing theories that challenge the notion of generic properties of good writing and beliefs about best instructional practice. (Smagorinsky, 2006, p. 8)

Smagorinsky’s contention makes the argument in favor of a comprehensive theoretical paradigm. Such a paradigm would significantly advance our understanding of literacy and writing in and outside academia. Vygotsky proposes an explanatory framework of considerable breadth that
fulfills this role organically, which explains the interest in his ideas among scholars. In these conditions, the question of accurate and nuanced understanding of the theoretical frameworks coming out of the Russian psychological tradition becomes paramount. Therein rests the value of my dissertation project: one cannot hope to apply or develop a theory correctly if the epistemological background of this theory has not been clarified and its affordances and limitations have not been determined. Such work is also important because, clearly, there has been some misunderstanding concerning the roots of cultural-historical psychology and activity theory. Authors, such as Wells (1985), who aim to explore the exact methodological roots of Soviet psychological research, its relationship with Marxist philosophy and epistemology, are few and far between. At the same time, it is not uncommon to come across arguments that represent Leont’ev’s research on activity as a cornerstone of human psychological functioning as a direct descendant of Vygotsky’s theory or even conflate the two: “Activity theory, arising from Vygotsky’s work, primarily through Leont’ev (1981), positions the mind in society rather than in isolation” (Chapman in Smagorinsky, 2006, p. 18). Such statements, although accurate in their essential interpretation of Vygotsky’s and Leont’ev’s approach, have to be explored in more detail in order to draw important lines of distinction between these theoretical paradigms. Precisely this is the mission of the present dissertation project: if we decide to use Vygotsky’s and Leont’ev’s theoretical ideas as overarching explanatory frameworks, we have to do it right. Therefore, a nuanced understanding of the uses that this scholarship has seen to date is well in order.

Vygotsky (1987) and Leont’ev (1965, 1978, and 1981), make claims that their systems of thought are comprehensive in nature, i.e. explain with adequate clarity the genesis of individual mind and
society in their interrelationship. As such, they have proven to have considerable appeal to contemporary scholars of composition and literacy.

Central to the dissertation project at hand are the following three goals:

1) Analyze select works in writing and literacy studies that make use of Lev Vygotsky’s cultural-historical psychology and A.N. Leont’ev’s activity theory for accuracy

2) Determine the sources of misconceptions in the interpretations of these theories and misconceptions, regarding the relationship between cultural-historical psychology and activity theory; and

3) Suggest corrective steps.

A corollary theme that will frequent the discussion is the conceptualization of the objects of study. Two terms will appear in this connection. The first term “the unit of analysis” comes from Vygotsky’s work. While it is immediately clear that it refers to the phenomenon under investigation, the task of the project will be to fill this term with meaning that comes directly from Vygotsky’s theory and the epistemological framework that underlies it. Since Leont’ev also employs the term “unit of analysis,” and his theory shares the same epistemological system with cultural-historical psychology, the term will be used in the Vygotskian sense to analyze the notion of activity and its applications in research. Finally, the concept of construct will be used alongside that of “term” to refer to research conceptions. While the uses of “term” and “construct” will often seem interchangeable, the reader should be aware that the notion of construct has an added connotation of internal relations derived from the philosophical underpinnings of Vygotsky’s and Leont’ev’s studies. “Term,” on the other hand, will be used in its usual sense.
The organization of this dissertation follows a customary canon. We begin with a concise overview of Lev Vygotsky’s cultural-historical psychology and its methodological underpinnings. Two topics will receive specific attention in this connection. Firstly, we will examine the role of Marxist philosophy in Vygotsky’s theoretical paradigm, with an aim of exposing its indispensable role in Vygotsky’s articulation of his research method. Secondly, we will briefly explore the relation between Vygotsky’s ideas and Leont’ev’s activity theory. In the third chapter, we will undertake a close examination of the uses of Vygotsky’s cultural-historical theory of human psychological development and Leont’ev’s activity theory in recent scholarship in the field of writing and literacy studies. The analysis will commence with Stephen Witte’s (1998, 2005) work that explores the possibilities for converting Vygotsky’s framework and Leont’ev’s activity theory into a practical research program. We will investigate Witte’s articulation of both theories as he tries to determine whether they could yield an adequate conceptualization of the object or unit of analysis for writing and literacy studies. Due to the depth of his analysis and the importance of the theoretical questions that he raises, the analysis of his work will serve as a touchstone for the critical inspection of subsequent works. Next, we will examine David Russell’s (1995, 1997, and 2002) appellations to the central notions from Leont’ev’s activity theory, with an eye on uncovering the degree of their correspondence to the methodological standards set by Vygotsky. The next stage of our analysis will be devoted to specific implementations of Vygotsky’s and Leont’ev’s conceptual systems. In this connection, the analysis of Zebroski’s (1983, 1994) work will emphasize the degree of accuracy in appropriating the conceptual side of cultural-historical psychology and activity theory, while the examinations of Bazerman’s (1995, 1997, 2002, and 2004) and Smagorinsky’s (2004, 2006) scholarship will assess attempts to achieve an amalgamation of Vygotsky’s and Leont’ev’s theoretical ideas with other explanatory paradigms. Chapters four and five will summarize the findings of the preceding analyses,
highlighting the defining role played by Marxist dialectic in Vygotsky’s and Leont’ev’s methodology and evaluating the degree of appreciation that this consideration receives in the scholarship under scrutiny.

In the process, we will call on other works of relevance, such as those by Scribner (1981, 1997), whose valuable insights come closest to an accurate interpretation of Vygotsky’s work and, therefore, can illuminate the main discussion. The faithfulness of Scribner’s approach to Vygotsky’s legacy also puts in sharper relief the lack of understanding among writing scholars regarding the epistemological background of his work – Marxist dialectic. Since Vygotsky is regarded as the founder of Soviet psychology, the discussion will allot significantly more attention to the conceptual foundations of his scholarship. The treatment of Leont’ev’s activity theory will proceed from the wide-spread assumption that it constitutes an offshoot of the Vygotskian paradigm. As mentioned above, one of the main goals of the present work will be to put this assumption to the test. The relevant summary of activity theory will emerge from the discussion, taking place around this issue. The arguments, focusing on the interpretations of Vygotsky’s cultural-historical theory, will commingle with the arguments about the proper identification of research goals and their analysis derived from his theory. The same kind of discussion will target activity theory. Further research may focus on the articulation of a Vygotskian explanation of the writing process.
CHAPTER I: An overview of Lev Vygotsky’s cultural-historical theory of human psychological development

If citation indices were wide-spread in the human sciences, they would probably show a steady increase in the interest in Lev Vygotsky’s theoretical work in the course of the past decades. In the American academia of today, a psychologist or an education specialist who has not heard of Vygotsky would probably be hard to find. The most widely recognized items from Vygotsky’s scholarship are the notion of the Zone of Proximal Development and his seminal work *Thinking and Speech* (Vygotsky, 1962). Yet, while most researchers display familiarity with the most popularized notions from Vygotsky’s theoretical arsenal, few of them would venture into a discussion about the fundamental methodological principles on which his theoretical system rests. It is not surprising, then, that references to Vygotsky’s ideas are often colored by the authors’ own assumptions about the larger context of his writings. Even specialist treatments of Vygotsky’s cultural-historical theory are characterized by polyphone opinions and interpretations. We also find differing treatments of Vygotsky’s legacy among his own countrymen. In Russia, the fall of the Soviet Union opened the gates for theoretical influences from the West and simultaneously reduced the prestige of Soviet schools of thought. The latter began to be associated with the defunct communist system, and because of this their appeal has dwindled dramatically. In many cases, the advance of foreign theories resulted in indigenous scholarship falling by the wayside. We may have come to a point when the growing interest in Vygotsky’s work in the West may lead to the re-importation of Vygotsky’s ideas to their historical birthplace, this time infused with various critical perspectives from the Western schools of thought. But regardless of whether this happens or not, we can see that both the Russian and the Western sides
of the scholarly spectrum might benefit from an excursion to the roots of Vygotsky’s theoretical position. In doing so, we would echo Joseph Click’s prologue to the fourth volume of the *Collected Works of L.S. Vygotsky* in which he asks a question that seems to endure: “How is Vygotsky to be understood” (Vygotsky, 1987, vol. 4, p. v)?

The point of departure in gaining a comprehensive understanding of Vygotsky’s cultural historical theory of human psychological development is appreciating him as a Marxist. We should take great care not to confuse Marxism of Vygotsky’s vintage with superficial references to it in official Soviet propaganda. In other words, in order to form a reliable understanding of Vygotsky’s ideas, and generally the ideas coming from the Soviet school of psychology, we must understand the basic principles of Marxist philosophy and the analytical method associated with it. From the outset, we should make the important distinction between two main strains within it that will be fundamental to the discussion that will follow. Firstly, Marxist philosophy is a set of epistemological postulates that define the basic laws of nature. Secondly, Marxist philosophy is a method of thinking and analysis that bears on the mental activity of the researcher in any area of knowledge. The inherent advantage of such a framework is that we obtain an intrinsic compatibility between the structure of reality and the structure of our thoughts about it. Vygotsky stresses the scientific value of the Marxist method precisely for this reason. For the purposes of the present study, the role of Marxist philosophy in guiding one’s thinking is, by far, the most important.

Vygotsky (1987), in his characterization of the crisis in psychology, insists that psychology can become truly scientific not when it overcomes and discards various metaphysical assumptions,
but incorporates them into the materialistic worldview. In other words, Vygotsky argues that the correct methodological approach is central in order for psychology to be scientific:

According to the very meaning of the word and the essence of the matter we cannot use “Marxist psychology” in the sense we use associative, experimental, empirical, or eidetic psychology. Marxist psychology is not a school amidst schools, but the only genuine psychology as a science. A psychology other than this cannot exist. And the other way round: everything that was and is genuinely scientific belongs to Marxist psychology. This concept is broader than the concept of school or even current. It coincides with the concept of scientific per se, no matter where and by whom it may have been developed. (Vygotsky, 1987, vol. 3, p. 341)

Thus, Vygotsky’s appellations to the Marxist approach, in fact, imply a reference to the scientific approach based on the premise of the existence of a knowable material reality whose parts are interconnected. The postulate of interconnectedness found among the phenomena in the material world is salient in Vygotsky’s support of a unified methodological approach in science that transcends disciplinary boundaries:

Dialectics covers nature, thinking, history – it is the most general, maximally universal science. The theory of the psychological materialism or dialectics of psychology is what I call general psychology. (Vygotsky, 1987, vol. 3, p. 330)

When we say Marxist philosophy, we normally mean Marxist dialectics, which is the typifying feature of this paradigm. However, the construct of dialectic is not Marx’s unique invention because it was borrowed from the philosophy of another German philosopher – Georg Hegel. Marx and Engels accepted Hegel’s main dialectical postulates without changes. The only significant alteration was the change in the epistemological orientations. While Hegel pursued the idealistic idea that the nature of reality is based on the dynamics of the human mind (hence his idea of the human spirit, rising to the full understanding and realization of itself through dialectical development), Marx and Engels argued that, quite simply, the world in which we live is material and real, in the sense that it exists independently of us:

It is therefore from the history of nature and human society that the laws of dialectic are abstracted. For they are nothing but the most general laws of these
two stages of historical development, as well as of thought itself. And indeed they can be reduced in the main to three:

The law of the transformation of quantity into quality and vice versa;
The law of the interpenetration of the opposites;
The law of the negation of negation.

All three are developed by Hegel in his idealist fashion as mere laws of thought: the first, in the first part of his Logik, in “Die Lehre vom Seyn”; the second fills the whole of the second and by far the most important part of his Logik, “Die Lehre vom Wesen”; finally the third figures as the fundamental law for the construction of the whole system. The mistake lies in the fact that these laws are foisted on nature and history as laws of thought, and not deduced from them. This is the source of the whole forced and often outrageous treatment; the universe, willy-nilly, has to conform to a system of thought which itself is only the product of a definite stage of development of human thought. If we turn the thing round, then everything becomes simple, and the dialectical laws that look so extremely mysterious in idealist philosophy as once become simple and clear as noonday. (Marx and Engels, 1987, vol. 25, p. 356-357)

This position has immediate implications for all branches of human knowledge, including psychology as a general study of mental functioning:

We must, therefore, contrast epistemological critique and formal logic as the foundations of a general science with a dialectic “which is conceived of as the science of the most general laws of all movement. This implies that its laws must be valid for both movement in nature and human history and movement in thinking” (Engels 1925, p. 530). This means that the dialectic of psychology – this is what we may now call the general psychology – is the science of the most general forms of movement (in the form of behavior and knowledge of this movement), i.e., the dialectic of psychology is at the same time the dialectic of man as the object of psychology, just as the dialectic of natural sciences is at the same time the dialectic of nature.

Engels does not even consider the purely logical classification of judgments in Hegel to be based merely on thinking, but on the laws of nature. This he regards as a distinguishing characteristic of dialectical logic.

What in Hegel seems a development of the judgment as a category of thinking as such, now appears to be a development of our knowledge of the nature of movement based on empirical grounds. And this proves that the laws of thinking and the laws of nature correspond necessarily with each other as soon as they are known properly. (Engels 1925, p. 493)

The key to general psychology as a part of dialectics lies in these words: this correspondence between thinking and being in science is at the same time object,
highest criterion, and even method, i.e. general principle of general psychology. (Vygotsky, 1987, vol. 3, p. 256)

Marxist dialectics, therefore, is a reformulation of Hegel’s dialectical laws that affirms the primacy of the material world and a correspondence between the laws of thought and the laws of nature. By adopting Marxist dialectical philosophy as a guiding epistemology, Vygotsky and other psychologists of the Soviet school contend that mental phenomena are part of the material reality and exist in perpetual motion. The development of mental phenomena, just like the development of the rest of material reality, is driven by internal contradictions whose resolution brings out qualitatively new states of their existence. Such contradictions rest on the so called unity and conflict of the opposites, which distinguishes them from purely logical or formal contradictions. Dialectical contradictions can be resolved through unification of contradictory elements that creates new wholes with novel properties. In other words, a resolution of dialectical contradictions comes about not through the destruction of the phenomena that enter them as parts, but through fusion that creates units with new properties.

The subject matter of Vygotsky’s theory can be seen as a systematic application of Marxist dialectics in the realm of human psychology. It is not, however, limited to the elaborations of such general epistemological assumptions with the help of psychological facts because Vygotsky's framework also includes elements of Marxist social analysis:

My enquiry led me to the conclusion that neither legal relations nor political forms could be comprehended whether by themselves or on the basis of a so called general development of the human mind, but that on the contrary they originate in the material conditions of life, the totality of which Hegel, following the example of English and French thinkers of the eighteenth century, embraces within the term "civil society"; that the anatomy of this civil society, however, has to be sought in political economy. … The general conclusion at which I arrived and which, once reached, became the guiding principle of my studies can be summarised as follows. In the social production of their existence, men inevitably enter into definite relations, which are independent of their will,
19

namely relations of production appropriate to a given stage in the development of
their material forces of production. The totality of these relations of production
constitutes the economic structure of society, the real foundation, on which arise
a legal and political superstructure and to which correspond definite forms of
social consciousness. The mode of production of material life conditions the
general process of social, political and intellectual life. It is not the consciousness
of men that determines their existence, but their social existence that determines
their consciousness. … The changes in the economic foundation lead sooner or
later to the transformation of the whole immense superstructure. In studying such
transformations it is always necessary to distinguish between the material
transformation and the economic conditions of production, which can be
determined with the precision of natural science, and the legal, political,
religious, artistic or philosophic — in short, ideological forms in which men
become conscious of this conflict and fight it out. Just as one does not judge an
individual by what he thinks about himself, so one cannot judge such a period of
transformation by its consciousness, but, on the contrary, this consciousness must
be explained from the contradictions of material life, from the conflict existing
between the social forces of production and the relations of production. No social
order is ever destroyed before all the productive forces for which it is sufficient
have been developed, and new superior relations of production never replace
older ones before the material conditions for their existence have matured within
the framework of the old society. Mankind thus inevitably sets itself only such
tasks as it is able to solve, since closer examination will always show that the
problem itself arises only when the material conditions for its solution are already
present or at least in the course of formation. (Marx, 1971, pp. 20-21)

Even though Marx’s chief concern consisted in giving an account of social development by
means of exploring the relations of production, his justification of the historical origins of
production is vital to understanding the human nature. From the citation above we realize that the
construct of production refers to the intrinsically human mode of living. Living one’s life
alongside other people means that one participates in relations not only with tangible natural
phenomena, constituting the physical environment, but also in the less conspicuous relations of a
social kind. The latter type of relations, taken in its regularity, gives rise to societal and economic
structures that, from the point of view of an individual, are no less influential than the forces of
nature. Production is said to play a leading role in such relations because it provides the basic
necessities of life, such as food and shelter. In order to be sustainable, relations of production
have to be legitimized and presented as immutable to the coming generations, which ensures the
preservation of the social order. Logically then, social development is driven by the means of production, that is, material tools and the conditions of production that arise from their use. It should be noted, however, that potentially such a description could endanger the conception of man as an autonomous subject capable of exercising free will. In other words, the Marxist view of human agency appears to deprive it of the capacity to change the course of life and history, proceeding from that premise that human nature is ruled by powerful external forces of natural and social origin. However, to assert something like this is surely anti-dialectical: a dialectical view of human psychology requires that we regard the social not only as emerging from the individual, but also simultaneously reversing its movement to impact the individual himself while reproducing itself continually at each moment of human social activity.

The construct of activity that forms another fulcrum of Soviet psychology originates in Marx’s notion of production as well. In the Marxist sense, activity is defined as purposeful human life movement whose goal is the satisfaction of human needs. Thus we arrive at the following materialistic representation of the human condition: humans exist in an opposition to the environment that offers resources for satisfying their needs, but at the same time mounts tremendous obstacles to their satisfaction. Just like other living beings, people must overcome the odds of nature in order to survive. Just like many pack animals, people form collectives to tackle this objective, but the way they go about it is qualitatively different. According to the Marxist view, working together collectively to survive that involves the use of tools and a communication system becomes a pivotal point in human material and psychological development. This triad – collective activity, the use of tools, and a communication system, forms the foundation of culture. The relations that it entails become the essence of human history.
We can now outline the direct connection between the premises of Marxist philosophy and Vygotsky’s cultural-historical theory of psychological development. Firstly, psychological functions are material in origin. Secondly, although psychological functions correspond to the structure of collective forms of practical human activities, this correspondence should be subject to additional investigation:

Although still feeding off the roots of historical materialism and Marxism, Vygotsky maintains that his own thinking is deeply rooted in biology and ecology, thus permitting a better understanding of historical materialism. He also shows a fearless open-mindedness regarding the revealing contributions of several contemporary psychologists on social and or artificial external stimulation (Janet, 1937; Binet, 1903) or behaviorism. He established an essential difference between those efficient tools destined to transform nature, which had captured the attention of Marxists, and the psychological tools aimed at the transformation of the mind.

In subjecting to his will the process of his own reactions, man enters in this way into a substantially new relation with the environment, comes to a new functional exploitation of elements in the environment as stimuli-signs which he uses, depending on external means, and directs and controls his own behavior, controls himself from the outside, compelling stimuli-signs to affect him, and elicits reactions that he desires. Internal regulation of goal-directed activity arises initially from external regulation. (Vygotsky, 1987, vol. 6, p. 63)

The fundamental quality of elemental functions is that they are totally and directly determined by environmental stimulation. The central quality of higher functions is self-generated stimulation, that is, the creation and use of artificial stimuli that become the immediate cause of behavior. (Vygotsky, 1978, pp. 38-39)

The functional circle, expanded by external mediation, thus places the human species in a new kind of medium that operates simultaneously with elements of the organism’s present context – presentational – and with elements of a new context expanded by means of external mediations that enable re-presentation, or the presentation of absent stimuli. (Del Rio and Alvarez in Daniels et al, 2007, pp. 290-291)

From the fact that Vygotsky points out that these psychological phenomena can only be studied indirectly, we can see why the questions of method come to the fore in his research agenda.

Packer (2008, p. 13) speaks of Vygotsky’s diagnosis of crisis in psychology as a core concern in
Vygotsky’s project because it has to do with the fundamental problem of dualism. In Vygotsky’s own words, “contemporary psychology – this doctrine of a soul without a soul – is intrinsically contradictory, is divided into two parts” (Vygotsky, 2004, p. 300). Elsewhere we find a clarification: “Two psychologies exist – a natural scientific, materialistic one and a spiritualistic one and “the two struggling tendencies are deeply and with objective necessity rooted in the development of psychology” (Vygotsky, 2004, p. 299).

Still, Packer’s interpretation of this line in Vygotsky’s work is somewhat unorthodox because it assumes a political connotation. Evidently, Packer understands Vygotsky’s use of Marxist dialectic as a rhetorical exercise meant to serve toward the betterment of society since, as Packer points out with a quotation from Habermas (1971), Vygotsky wanted to produce an “emancipatory” theory. It is uncertain, however, whether emancipation was one of Vygotsky’s intentions since we just showed that his main emphasis was on finding a purely scientific approach to the problems of human psychology. The only sense in which Vygotsky is engaged in emancipation is really an attempt to rid psychology of misconceived notions. He joins the movement of progressive psychologists to put psychology on a genuinely scientific path:

Lange’s false understanding of the crisis (of psychology – my note) ruined his own work. In defending the principle of a realistic, biological psychology, he fights Ribot and relies upon Husserl and other extreme idealists, who reject the possibility, who reject the possibility of psychology as a natural science. But some things, and not the least important ones, he established correctly. These are his correct propositions:

(1) There is no generally accepted system of our science. Each of the expositions of psychology by eminent authors is based upon an entirely different system. All basic concepts and categories are interpreted in various ways. The crisis touches upon the very foundations of our science.

(2) The crisis is destructive but wholesome. It reveals the growth of our science, its enrichment, its force, not its impotence or bankruptcy. The serious nature of the crisis is caused by the fact that the territory of psychology lies between sociology and biology, between which Kant wanted to divide it.
(3) Not a single psychological work is possible without first establishing the basic principles of this science. One should lay the foundations before starting to build.
(4) Finally, the common goal is to elaborate a new theory – a “renewed system of the science.” (Vygotsky, 1987, vol. 3, p. 295)

So we conclude that, while the implications of Vygotsky’s project may seem political, especially to an observer who is used to thinking in terms of political labels or scientific paradigms, the greater truth about Vygotsky is in his relentless search for a research path that would qualify as universally scientific. From the discussion that follows, we will realize that because Vygotsky sees Marxist philosophy as an equivalent of the scientific method, the term “Vygotsky’s school of thought” is not accurate.

We should also note that term “activity,” which is often associated with A. N. Leont’ev’s activity theory (1978) and used by Vygotsky, has its roots in Marxist philosophy as well. As already understood, Marx and Engels use this construct to refer to the purposed relation of man to his natural environment. Vygotsky uses it in exactly the same sense, but never makes it into a cornerstone of his theory, at least not in the form that one finds in A.N. Leont’ev (1978), P.Y. Galperin (1976), A.V. Zaporozhets and D.B. Elkonin (1974), and S.L. Rubinstein (1940), or in European and American sources. It is the nature of human activities, and the specificity of the psychological mechanisms that underlie them, that interests Vygotsky more than the explanatory power of the term itself. Vygotsky refers to the following argument in Engels who writes that “an animal only makes use of the environment … man on the other hand … dominates it,” that “all systematic acts of all animals did not succeed in placing the stamp of their will on nature. This only man can do” (Marx, 1975). We can see that the construct of activity enters his discussion only indirectly because it is circumstantial to the nature of the psychological processes triggered
by it. We can observe the manner in which Vygotsky sets up his explanatory priorities in the following quotation:

Action forms a judgment in speech, transforms it into an intellectual process. We have seen this in experiments with the child. What the child thinks in action, using tools being thinking in action, while using speech, changes not only the form of his thinking, introducing into it a road through speech and new forms of using experience, but he changes speech itself, forming it according to an intellectual principle, giving it an intellectual function. In the phylogenetic plan, of which L.I. Lenin speaks, speech evidently played a decisive role in the process of fixing in the human consciousness logical figures repeated billions of times in human experience.

Up to this time, the significance of speech for thinking was presented one-sidedly, but not how speech out of the amorphous mass that carries out the most various functions under the influence of practical intellect, accompanying its operations and fixing them after the fact, forges for itself an intellectual form (judgment), takes a picture, a cast of practical intellect which only later – during the transitional age – itself begins to control thinking. (Vygotsky, 1987, vol. 5, p. 119)

We learn from this part of Vygotsky’s argument that his theoretical system considers higher psychological functions, cultural development of the individual, and the mastery of one’s own psychological functioning to be broadly equivalent. The linchpin holding these phenomena together in psychological unity is speech that embodies culturally codified structures of language. The mastery of external cultural actions assisted and mediated by speech leads directly to the mastery of one’s own psychological processes. Thus, culturally and historically conditioned activity of the individual cannot be understood outside the context of symbolic communication and the systems that make it possible. Speech enables coordination of human activities both internally, on the individual psychological plane, and externally in a human collective, thus giving them a social character. Arguably, Vygotsky’s theory is the only psychological paradigm that unifies the symbol (word), community (communication), and purposeful activity into a coherent system. Therefore, we cannot assume that the construct of activity has independent explanatory value in his theoretical position. It is no surprise, therefore, that Vygotsky shifts his
analytical focus away from the construct of activity to the construct of meaning. He argues that meaning has psychological reality and constitutes the substance of psychological development. Meaning is dynamic in character and represents the inner psychological structure of the movement from thought to word. Thus, Vygotsky’s construct of generalized meaning provides analytical access to the connection between sensory experience mental structures. Naturally, the most obvious access point to meaning is through the units of language:

We found the unit that reflects the unity of thinking and speech in the meaning of the word. As we have tried to show, word meaning is a unity of both processes that cannot be further decomposed. That is, we cannot say that word meaning is a phenomenon of either speech or thinking. The word without meaning is not a word but an empty sound. Meaning is necessary, constituting feature of the word itself. It is the word viewed from the inside. This justifies the view that word meaning is a phenomenon of speech. In psychological terms, however, word meaning is nothing other than a generalization, that is, a concept. In essence, generalization and word meaning are synonyms. Any generalization – any formation of a concept – is unquestionably a specific and true act of thought. Thus, word meaning is also a phenomenon of thinking. (Vygotsky, 1987, vol. 1, p. 244)

Vygotsky makes an additional distinction between meaning proper associated with signs as members of semiotic systems and its transformed form which arises when meaning is deployed in concrete life circumstances. The resulting instantiation of meaning is called sense:

Paulhan states that the word’s sense is complex, fluid, and constantly changing. To some extent, it is unique for each consciousness, and for a single consciousness in varied circumstances. In this respect, the word’s sense is inexhaustible. The word acquires its sense in the phrase. The phrase itself, however, acquires its sense only in the context of the paragraph, the paragraph in the context of the book and the book in the context of the author’s collected works. Ultimately, the word’s real sense is determined by everything in consciousness which is related to what the word expresses. According to Paulhan, the sense of the Earth is the solar system, the sense of the solar system the Milky Way, and the sense of the Milky Way. … We never know the complete sense of anything, including that of a given word. The word is an inexhaustible source of new problems. Its sense is never complete. Ultimately, the sense of a word depends on one’s understanding of the world as a whole and on the internal structure of the personality. (Vygotsky, 1987, vol. 1, p. 276)
Finally, Vygotsky argues that both meaning and the signs that carry it are social in nature. This argument, coupled with the premises of Marxist dialectical philosophy, yields a formula of psychological development which highlights mediation: all symbolically mediated psychological functions comprising individual consciousness are always preceded by social forms of material cooperation and collective action with equivalent structure:

The general line of reasoning Vygotsky employed in this respect grew out of his critique of theorists who assumed that the relationship between word and thought remains constant. In contrast to this, he began with the assumption that signs first emerge in social and individual action without their users’ full understanding of their meaning or functional role. What then follows is a process of coming to understand the meaning and functional significance of the sign forms that one has been using all along. (Wertsch in Daniels et al, 2007, p. 186)

The principle outlined above holds the key to Vygotsky’s characterization of psychological development: physiological maturation and psychological growth are separate lines of development that intersect at a certain age. From that point on, the appearance of speech signs and symbolic operations begin to restructure the child’s perceptions of the material world. The symbolic function represented by speech signs introduces a new principle of mental organization. Speech takes over the role of determining the child’s overall attitude towards reality. This model of psychological development prompts Vygotsky to argue for the importance of investigating the phenomenon of consciousness. On the one hand, the development of consciousness is connected to material activities. On the other hand, word meanings generate objectified connections to reality which accompany purposeful activity (sense) and simultaneously enter into relations with one another (meaning). Consequently, the core of Vygotsky’s theoretical position is logocentric because it ascribes the role of the main driving force in psychological development to language.

Vygotsky’s research received an important extension in the work of A.R. Luria who holds the title of Vygotsky’s most valuable collaborator. Luria conducted much of the experimental field
work since Vygotsky could not participate in distant expeditions because of health problems. Predictably, Luria’s work (1976) focuses on summarizing and explaining the rich observational and experimental data that he had accumulated during his psychological expeditions to Central Asia. The focus of these studies was on the comparison of cognitive processes in people living in a traditional agrarian culture to the cognitive abilities of those of them who have had contact with a formal educational tradition. Luria started out by asserting that “important manifestations of human consciousness have been directly shaped by the basic practices of human activity and the actual forms of culture” (Luria, 1976, p. 3). This was followed by a canonic Marxist definition of the key construct of consciousness as “the highest form of reflection of reality” (Luria, 1976, p. 8). Luria’s argument elaborated Vygotsky’s premise that introducing formal education into a culture which favored concrete modes of thinking was likely to supplement these modes with an alternative ways of representing reality on higher levels of abstraction. Along with Vygotsky, Luria hypothesized that new forms of social relations modify the existing psychological structures in radical ways to bring forth new types of activities that have a less direct grounding in the material environment. We should understand that Luria viewed that psychological change not as a necessary development, but a development in response to the changing social circumstances (the introduction of mass formal education). We already know that such a dependence of psychological development on the material social relations is a direct offshoot of arguments advanced by Marx and Engels. Luria conceptualized the changes that he had observed not in terms of development in the structure of activities, but in terms of transformations in the structure of word meanings – a Vygotskian explanatory turn, requiring that attention be given to the role of language in human psychological functioning. His interpretation of the experimental data collected during field work showed that under the influence of formal schooling word meanings tended to become unhinged from the practical material activities, lose their situational character,
and began to be perceived as abstract concepts. These findings essentially meant two things. First, they showed that Vygotsky had been correct in pointing out the connection between symbolic mediational means and practical activities. Second, Luria’s results indicated that the nature of mediational processes was, to a certain extent, dependent on the degree of the connection between speech and practical activity seen by the subjects. Formal education tended to increase the distance between linguistic units and the situations of practical activity in which they were used. Incidentally, Luria’s work calls into question the efficacy of formal writing instructions that is divorced from meaningful practical activity. We can argue about further claims that these findings may warrant but we can say with certainty that Vygotsky’s theory was designed with empirical verification in mind.

Our discussion of the organic connection between Marxist philosophy and Vygotsky’s work prompts the conclusion that his theory proposes an integral model of personality. From a Vygotskian standpoint, the category of the individual cannot be held in opposition to the category of the social. Individuality emerges as a sum-total of interiorized social relations, reflecting the unique position of each person in the world. The latter idea explains why Vygotsky cautions us not to equate the individual aspect of personality development with the social process. If we say that everything in the human world is socially constructed, we will be negating human individuality. In other words, if we elaborate the most general laws of thinking and psychological development, they should not be taken as a statement of mental uniformity for all people. The life history of each person, Vygotsky argued, consists in the general laws unfolding in concrete material circumstances. We can summarize that Vygotsky’s approach to the science of man and society asked the question “how,” referring to the most basic forms of their existence and functioning. From this perspective, the question of “what” actually happens in the life of a
concrete person once these laws realize themselves does not have any meaning within Vygotsky’s paradigm. We should, therefore, see Vygotsky’s theory as a statement of general trends or vectors in psychological development.

More recent attempts by A.N. Leont’ev to move the focus of discussion to the level of activity raise a number of questions from a Vygotskian point of view. First, what functional structures are brought about by this participation in their psyche? Second, how would the construct of activity allow us to transition from an explanation of its material side to an explanation of its psychological content? If we keep these questions in mind, further distinctions between activity theory and Vygotsky’s cultural-historical psychology will be easier to understand. As we indicated above, the imperative of Vygotsky’s project in psychology was to bridge the mind-body divide. He was looking for an explanatory paradigm that would allow him to explain the connection between material human activities and the psychological content that accompanies them. Marxist dialectical philosophy was the only epistemological framework that could help in this case because it offered Vygotsky a way to consider the individual and social sides of psychological development in dialectical unity.

Let us conclude these introductory notes with a summary of cultural-historical psychology illustrated with a passage from Vygotsky’s work, specifically “Consciousness as a Problem for the Psychology of behavior.” We have established that Vygotsky was committed to Marxist philosophy as a source of guiding principles that determined simultaneously the nature of human functioning under study and the methodology of this investigation. At the same time, he had to abide by certain restrictions imposed by such an overarching framework that also determined the shape of his theory. For example, Vygotsky had to negate the idea according to which individuals
have reasonably developed inborn psychological functions that gradually unfold in children until they reach the state of adult psychological maturity, even though this negation does raise the question of the extent to which culturally bred psychological functions override inborn mental endowments:

According to Vygotsky’s idea, we must distinguish two levels in human mental processes: the first is mind left to itself; the second is mind (the mental process) armed with tools and auxiliary means. In the same way we must distinguish two levels of practical activity: the first is the “naked hand,” the second the hand armed with tools and auxiliary means. Moreover, in the both the practical and the mental sphere the second, tool level is of decisive importance. In the area of mental phenomena Vygotsky called the first level the level of “natural” and the second level the level of “cultural” mental processes. A “cultural” process is a “natural” process mediated by unique mental tools and auxiliary means.

It is not hard to see that the analogy Vygotsky drew between labor processes and mind is rather crude. The human hand is both the organ and a product of labor, as the Marxist classics have pointed out. Consequently, contraposition of the “naked hand” and the hand armed with tools in such a sharp form is not justified. Nor is sharp contraposition of “natural” and “cultural” mental processes justified. The terminology used by Vygotsky led to misunderstandings as the justified question was raised whether or not all mental processes of modern humans are cultural processes. These weaknesses in Vygotsky’s ideas caused justified criticism both during his lifetime and after his death.

At the same time, we must note that Vygotsky needed such contrasts in the first stage of his work in order to set off the basic thesis of his theory which regarded the decisive importance of psychological tools in the course of mental processes. (Leont'ev in Vygotsky, 1987, vol. 3, p. 17)

On the other side of the spectrum we come across metaphysical conceptions of human nature that reject the idea of materiality of the human mind. Armed with the Marxist dialectical method, Vygotsky found the contradiction between the material and spiritual conceptions of mind easy to overcome. We have already touched upon his notion that psychological structures begin as concrete relations among people and their material environment. Using this premise, Vygotsky determined that the human psyche must have an objective form of existence outside the individual as an interpsychological phenomenon. Furthermore, such an objective form of
existence presupposes the presence of material media that complete the circuit of relations arising among people and between human activities and psychological processes. Vygotsky attributed this nontrivial role to language and other symbolic systems in the following fashion:

In man, a group of reflexes easily stands out, which we should call the system of reversible reflexes. These are reflexes to stimuli that in turn can be created by man. The word that is heard is a stimulus. The word that is pronounced is a reflex that creates the same stimulus. Here the reflex is reversible, because the stimulus can become a reaction and vice versa. These reversible reflexes create the basis for social behavior and serve the collective coordination of behavior. In the whole multitude of stimuli one group clearly stands out for me, the group of social stimuli coming form people. It stands out because I myself can reconstruct these stimuli, because they very soon become reversible for me and thus determine my behavior in another way from all others. They make me comparable to another, identical to myself. The source of social behavior and consciousness also lies in speech in the broad sense of the word.

It is extremely important to state the idea here, albeit in passing, that if this is really so, then the mechanism of social behavior and the mechanism of consciousness are one and the same. Speech is, on the one hand, the system of the “reflexes of social contact” [41] and, on the other hand, the system of the reflexes of consciousness par excellence, i.e., an apparatus for the reflection of other systems.

I am conscious of myself only to the extent that I am another to myself, i.e., to the extent that I can again perceive my own reflexes as stimuli. In principle there is no difference in mechanism whatsoever between the fact that I can repeat aloud a word spoken silently and the fact that I can repeat a word spoken by another: both are reversible reflex-stimuli. (Vygotsky, 1987, vol. 3, p. 77)

Earlier we have established that Vygotsky proposed a logocentric model of human psychology. Language and other symbolic means are seen in it as an essential element that enables more advanced modes of activity, compared to simple stimulus-reaction types of behavior that we see in animals. Vygotsky argues that without word, spoken or written, we are not human. His claim seems substantive enough because it is supported by a combination of a well-defined epistemological framework, an explicit analytical method, and empirical data. We also note that Vygotsky’s scheme has a special role reserved for writing because, if for him speech (or “the system of reflexes of social contact,” as quoted above) is the formative material of consciousness,
then we have to recognize writing as a material embodiment of consciousness. Each time we refer to a page that we have just written, we gain access to a snapshot of our consciousness in which all meaning points are presented to us simultaneously. Vygotsky suggests that one can exert more deliberate control over the content of one’s consciousness when it is scripted in written texts and one can manipulate these symbolic representations in ways similar to those used while working with other material objects. We cannot attend to the fleeting content of our speech quite in the same fashion. The material properties of writing surpass speech in durability. Written text is an artifact that carries its message not only across space, but also across time because it can be preserved and handed down to the generations that follow. Thus, we can see that in Vygotsky’s framework writing implies new communicative possibilities between people (intrapsychological connections) and integrative options for organizing activities. If we accept Vygotsky’s premises about the social and symbolic nature of consciousness, we will also have to agree that these circumstances bring about qualitative changes in the way in which individual consciousness is formed under the influence of writing:

Through oral speech, the child has achieved a rather high level of abstraction with respect to the object word. With written speech, the child is presented with a new task. He must abstract from the sensual aspect of speech itself. He must move to abstracted speech, to speech that uses representations of words rather than words themselves. In this respect, written speech differs from oral speech in the same way that abstract thinking differs from graphic thinking.

Written speech is more abstract than oral speech in other respects as well. It is speech without an interlocutor. This creates a situation completely foreign to the conversational speech the child is accustomed to. In written speech, those to whom the speech is directed are either absent or out contact with the writer. Written speech is speech-monologue. It is a conversation with a white sheet of paper, with an imaginary or conceptualized interlocutor. Still, like oral speech, it is a conversation situation. Written speech requires dual abstraction from the child. It requires an abstraction from the auditory aspects of speech and an abstraction from the interlocutor. … Written speech is the algebra of speech. (Vygotsky, 1987, vol. 1, pp. 202-203)
Thus, Vygotsky suggests that mastery of written speech represents a qualitative leap in the development of abstract thinking. Writing provides a material path to the content of other people’s consciousness and allows for preservation of collective memory and experience across space and time. The materiality of writing as a psychological tool, coupled with its power of abstraction, ensures its cornerstone role in the development of human psychological functions.
Chapter II: Applications of Lev Vygotsky’s cultural-historical psychology and Alexei Leont’ev’s activity theory in writing studies

Witte: a critical examination of Leont’ev's activity theory and its relation to Vygotsky’s original framework

Applications of cultural-historical psychology by Lev Vygotsky and activity theory by A. Leont’ev in writing research and educational practice have become part of disciplinary practice, as noted by Witte (2005). Such interest reflects the fact that the discipline is actively searching for a theory or an explanatory paradigm that would strengthen its positions both scientifically and institutionally. We can identify with Witte’s concern because a robust theory of writing and literacy has a direct impact on the vitality of the discipline as an independent area of study. Witte’s work poses questions that highlight the importance of methodology in constructing research. We will also examine his use of Vygotsky’s ideas and critique of activity theory to obtain a theoretical springboard for the discussions of other work in the field that will follow. We wholeheartedly share Witte’s drive to elaborate an inclusive research paradigm based on rigorous assumptions. As such, Witte’s work is indispensable as a source of ideas whose understanding will be required if we are to move the discipline forward in a meaningful way.

In “Research in Activity: An Analysis of Speed Bumps as Mediational Means,” Witte acknowledges the advances of Vygotsky’s theoretical legacy and Leont’ev’s activity theory have made in literacy and writing studies. We concur with him in this assessment. We should note, however, that generally these ideas have been entering Western scholarship in two ways. Most
authors have been content to accept them at face value, without an analysis of the philosophical assumptions involved (e.g. Wertsch (1981), Engeström and Lektorski [1990], Bazerman [1995], Bazerman and Russell [2002], Engestrom et al. [1999], Smagorinsky [1994], Lee and Smagorinsky [2000]). A few, however, have been more critical in this regard (e.g. Zebroski [1994], Packer [2008]), and, without any doubt, Witte belongs in this camp. He is among the few scholars who ask how Vygotsky’s and Leont’ev’s ideas can be applied in empirical research and whether these ideas impose any conceptual limitations in this respect. Witte feels that the discipline of writing and literacy will be stymied in its future development without a comprehensive theoretical and methodological framework to guide its development. The core question that he poses is how such a theory, of Vygotskian or any other flavor, could illuminate the proper object of research and provide instrumental methods for specifying it with a satisfactory degree of theoretical generality. Witte’s choice of Vygotsky’s cultural-historical theory of human psychological development as a framework that could fulfill this objective dates back to an earlier work, Bracewell and Witte (1998), in which the authors explore the conceptual affordances of the constructs of activity and mediation for literacy research. Vygotsky’s ideas are weighed against the formulation of activity theory that was advanced by A.N. Leont’ev in order to assess the possibilities of constructing an encompassing theory of human performance.

We will begin by retracing Witte’s comparative accounts of the theoretical perspectives in the field which he provides with the intention of showing their limitations and affordances. Simultaneously, Witte provides the customary discussion of the roots of Lev Vygotsky’s cultural-historical psychology and A.N. Leont’ev’s activity theory:

Vygotsky’s and Luria’s efforts were focused on developing a Marxist psychology, including an accommodation of the dialectical processes hypothesized to operate between humans as natural, biological beings and humans as cultural, social beings. Clearly, Vygotsky’s and Luria’s knowledge of
and philosophical agreement with Marx and Engels led them to pursue certain themes and ideas in their own work. That work focused on two major, but not unrelated, projects: (a) to understand the origins and nature of human consciousness and (b) to understand the development of higher psychological functions such as voluntary attention and logical memory. The first of these projects is generally understood in phylogenetic terms and the second in ontogenetic terms. For both projects the principle of activeness, in one form or another, was crucial. (Witte, 2005, p. 130)

Correctly, he claims that Vygotsky’s and Leont’ev work are related bodies of theoretical thought, but they differ in emphasis and choice of research constructs. Witte also notes that both of these research traditions draw on Marxist materialistic philosophy for an epistemological foundation. However, he does not specify any details of this foundation, so we will have to refer to our previous discussion to keep them in mind as a context. We have determined that the Marxist philosophical orientation presupposes the following premises: (1) all phenomena in the world are real, material, and interdependent; (2) all matter in the world is in constant motion; (3) development is a kind of motion in which quantitative changes accumulate to produce qualitative changes; (4) entities and their systems contain internal contradictions (opposing forces or tendencies) which are the main causes of all motion and development. We have also learned that Marxist philosophy interprets motion and development in very broad terms, and that internal contradictions are resolved dialectically, i.e. not through elimination of the opposites but through their synthesis. Based on these premises, we have realized that dialectics is generally opposed to strict determinism.

However, Witte does not engage in an extended discussion of the philosophical background of Soviet psychology. Instead, he notes that some understanding of its historical development can be gained from the scholars in the U.S. who incorporate its ideas in their research, specifically mentioning Scribner and Cole (1981) as the starting point in this trend. Witte also notes that, while Scribner and Cole refrain from using the concept of activity in their explanatory
framework, limiting themselves to Vygotsky’s ideas, Wertsch (1981) raises this construct to the status of an explanatory paradigm in its own right:

While Scribner and Cole obviously and unabashedly drew on concepts and methodologies articulated through the writings of Vygotsky and Luria, they make no mention of Leont’ev and his theory of activity, even though Scribner and Cole were probably familiar with Leont’ev’s work. The absence of any reference to Leont’ev invites the inference that Leont’ev’s activity theory would, in the view of Scribner and Cole, add little to their study of the Vai that could not be found in Vygotsky and Luria. (Witte, 2005, p. 129)

This comparison prompts Witte to suspect a possible area of misunderstanding, regarding the relationship between Vygotsky’s cultural-historical theory of psychological development and A.N. Leont’ev’s activity theory. Likely differences between the two are also obvious from Witte’s mention of “weaknesses of activity theory as it has been articulated by Leont’ev and those most influenced by him” (Witte, 2005, p. 130). Witte’s misgivings regarding the notion of activity have to do with its level of abstractness. On the surface of it, Leont’ev choice of activity as the leading theoretical construct seems to ensure the desired explanatory breadth. In other words, a theoretical position articulated around such a broad concept would necessarily constitute a comprehensive explanatory paradigm that Witte is calling for. However, activity is a daunting notion to understand and to apply in practical research. Treated as a unit of analysis, the construct of activity does not appear to be finite; indeed, in order to identify it in actual human behavior and discover its structure, one would have account for its motivational elements and psychological mechanisms that realize it. Similarly difficult to articulate is the notion of goal that is posited for every activity. By contrast, Vygotsky’s notions of mediation and psychological tools shed light on the root causes of human activity irrespective of its overt manifestations. They refer to the essential mechanisms that make human activity possible, rather than the results of their functioning observed as activity.
We will now retrace Witte’s elaboration of Vygotsky’s theoretical position. Again, we note that Witte does extend his discussion of its Marxist foundation beyond a mere recognition of its presence. We make this point because the central argument in the present work declares any rendition of cultural-historical psychology and activity theory incomplete without a prior understanding of Marxist dialectic. However, we do not wish to claim that accounts of Soviet psychological ideas are entirely without merit if we do not appreciate their philosophical foundation. Rather, we want to underscore the inherent incompleteness of such accounts.

Witte identifies two main goals in Vygotsky’s and Luria’s work: (1) to provide an explanation of the roots and structure of consciousness and (2) to explore the development of higher psychological functions (thinking, perception, memory, and speech). The first line of their analysis has to do with the psychological development of people as a species (phylogenesis), whereas the second focuses on the individual (ontogenesis). Witte points out that Vygotsky’s theory regards psychological development to be the result of human activeness – a construct that presupposes two types of relations: (1) the relation of people to their material environment in which they try to change or control it with the help of material tools; (2) the relations among people that take place as they act on their material environment collectively. Vygotsky claims that both of these criteria differentiate humans from their animal ancestry in this sense that animals are psychologically slaved to the environment, while humans break this dependence with the help of symbolic mediation. Animals are generally incapable of developing linguistic systems that are generative (i.e. consist not only of signs but also of syntactic rules to be able to combine signs to form different messages) as well as representational. The kinds of signs that appear to be used by animals rely on the same stimulus-response psychological structures as reactions to other natural
stimuli. Witte, however, fails to note that these premises originate in the Marxist philosophy of nature. Their appearance in Vygotsky’s and Luria’s work is the immediate consequence of their choice of method. The same qualification applies to Vygotsky’s and Luria’s use of the construct of tool that represents an extension of the concept of material tools, emerging from Marxist philosophy. From Witte, however, we get the impression that the construct tool is Vygotsky’s invention:

Vygotsky and Luria argued that consciousness is not a so-called given in individuals from birth but rather that it develops historically through the individual’s engagements, via tools, in practical activity and through the individual’s interactions with others via language and other signs. For Vygotsky and Luria, material tools (artifacts such as garden hoes, fishing rods, and hammers) served to mediate … between acting human participants and the natural world of objects, while language and other sign systems served to mediate between humans in a similar way. As distinct from the natural world, the world of culture is, for Vygotsky and Luria, produced and reproduced through humans’ reliance on mediational means. Because individuals learn to use material and symbolic tools from others, material and symbolic tools also mediate between the individual and the larger culture, carrying forward for each new generation and each new user something of the residue of past actions. (Witte, 2005, p. 131)

Witte’s indication of the fact that material tools are not different from mental tools in their psychological impact does, however, point toward Vygotsky’s creative application of Marxist principles to human behavior. Broadly, the Marxist approach dictates that psychological development on the mental plain must have counterparts in the actual life activities of the individual: his relations with the natural environment and other people. We find exactly this formula mirrored in Vygotsky who asserts that mental structures have to be represented on the material plain, in actual life relations of the individual before they produce corresponding psychological functions. In Vygotsky’s terminology, the production of mental functions through prior participation in material relations with a similar structure is called internalization. We already know that Marx describes material relations between people and their world as collective
goal-oriented activities which are denoted by the term “labor.” As mentioned above, Witte’s description correctly identifies the goal of labor as bringing about desirable changes in the environment in order to meet people’s needs. Yet we have to point out that Witte’s argument would have been bolstered if he drew a direct link between Vygotsky’s position and the principles of Marxist dialectical materialism. The link we have in mind is that the material conditions of human life elaborated in Marxist philosophy contain within themselves the necessary preconditions of psychological and social development. By this we mean the essential connection between the emergence of collective goal-oriented labor and the development of appropriate mental functions to support it. In agreement with the Marxist dialectical vision, Vygotsky argues that both processes have been unfolding hand in hand, reinforcing each other. However, Vygotsky’s appellation to Marxist philosophy is not limited to its postulates that concern the origins of the human race and the principles of its historical development that follow from these postulates.

The second aspect of Vygotsky’s uses of Marxism is not immediately obvious from his works, but its importance is hard to overestimate. Vygotsky employs Marxist dialectic as a tool to control and guide his own analytical activity, both in the formulation of research constructs and their relations and in determining the exact procedure for their examination that is consistent with their essential nature. Here is how Vygotsky formulates this approach with respect to the relationship between thought and speech:

The investigation of any mental formation presupposes analysis, but this analysis can take either of two fundamentally different forms. All the failures that researchers have experienced in their attempts to resolve the problem of thinking and speech can be attributed to their reliance on the first of these two forms of analysis. In our view, only the second represents the only means available for moving toward a true resolution.
The first of these forms of analysis begins with the decomposition of the complex mental whole into its elements. This mode of analysis can be compared with a chemical analysis of water in which water is decomposed into hydrogen and oxygen. The essential feature of this form of analysis is that its products are of a different nature than the whole from which they were derived. The elements lack the characteristics inherent in the whole and they possess properties that it did not possess. (Vygotsky, 1987, vol. 1, p. 45)

Vygotsky proceeds to outline an alternative analytical procedure that allows only such constructs or units of analysis that have the same qualitative characteristics as the whole to which they belong. While he refrains from announcing his indebtedness to Marxist dialectic, as he outlines this analytical requirement, its point of origin is, in fact, found in the analytical approach developed by Marx. To reiterate, the analytical procedure that Vygotsky has in mind must elucidate the unity of mental structures and the structure of social practical actions and the interactions that it engenders. In Vygotsky’s terminology, the application of Marxist dialectic to the problem of human psychological development and functioning implies “causal-genetic analysis” (Vygotsky, 1987, vol. 1, p. 49). The notion of causality refers to the traditional analytical practice that proceeds from a whole to its parts, whereas the genetic condition requires that the parts embody qualitatively identical essential internal relations to the relations, typifying the whole.

Thus we can conclude that the answers to both key questions raised by Vygotsky with respect to human psychological development – the origin of consciousness and the nature of higher psychological functions – are already implied by the Marxist philosophical framework in which he operates. At the same time, we note that Vygotsky’s theoretical work was a deep inquiry into the details of behavior that these principles presuppose. Witte also records Vygotsky’s and Luria’s response to the need for an empirical verification of the assumptions that they had made with the help of Marxist philosophy: “Vygotsky and Luria also demonstrated, through an array of
ingenious experiments and interventions, that mediated higher order mental functioning (or cognition) is a distributed phenomenon and not actually located ‘within the head and between the ears’ of particular individuals” (Witte, 2005, p. 132).

Finally, Witte explains the way in which Vygotsky describes the transition from the relations of material activity to higher psychological functions by citing the construct of “interiorization” or “internalization.” Yet once more, we have to draw the reader’s attention to the fact that Vygotsky understood interiorization as a dialectical change, as explained by the Marxist approach. This construct refers to the presence of essential contradictions in a person’s relation to the environment in the form of practical activities and also implies the availability of a medium that exist both in the material environment and on the psychological plane. From what we have already learned about the nature of the Marxist approach and the way it is instantiated by Vygotsky, we can logically predict that the essence of the contradiction in human behavior with respect to the material environment consists in what people can or cannot do under a given set of conditions. Indeed, as Witte reports, Vygotsky conceptualizes this situation in exactly the same Marxist-inspired fashion, by introducing the notion of the zone of proximal development.

According to it, there is always a gap between what a person can accomplish on his own, relying on the already developed psychological functions, and the activities that he can perform only with external help which rely on partially developed psychological functions. Thus, psychological development is achieved through a qualitative transition to a higher level of performance on the mental plane as it catches up with the performance on the practical plane. The role of the medium, tying together practical collective activity and concomitant communication, is assumed by speech and other sign systems. In this connection, Witte underlines Vygotsky’s elaboration of the role of inner speech as a material tool of thinking, operation within the overall pattern of
symbolic mediation and uses Vygotsky’s canonical triangle to illustrate this function (Witte, 2005, p. 132):

We now arrive at the following overview of the Vygotskian paradigm:

In Vygotsky’s and Luria’s cultural-historical psychology, the idea of the tool, whether material or symbolic, in practical human activity is crucial, whether that activity is physical or mental in nature. It is in tool use that Vygotsky and Luria discovered one of the ideas they elaborated on and pursued most extensively, namely, the idea of mediational means, which they saw as critical to the development of consciousness and, relatedly, to the development of higher order psychological functions, both of which enable humans to, as it were, “rise above” the environmental conditions that obtain for them at any given moment, enable them to alter the material conditions of their own lives and to plan for their futures. Vygotsky’s attention to mediational means was also critically important in formulating his opposition to the idealism that earlier (and, by the way, later) psychologies derived from the mind-body dualism of Descartes. (Witte, 2005, p. 131)
We would do well by continuing with Witte’s line of reasoning above and arguing that Vygotsky could expect to overcome the mind-body dualism only with the help of a conceptually appropriate analytical method. This premise alone justifies our call for utmost attention to the philosophical background of his work. We have to concede, however, that we find Witte’s discussion somewhat lacking in this regard. Witte does recognize the epistemological roots of Vygotsky’s and Luria’s research:

Vygotsky’s and Luria’s efforts were focused on developing a Marxist psychology, including an accommodation of the dialectical processes hypothesized to operate between humans as natural, biological beings and humans as cultural, social beings. Clearly, Vygotsky’s and Luria’s knowledge of and philosophical agreement with Marx and Engels led them to pursue certain themes and ideas in their own work. (Witte, 2005, p. 130)

He extends the same recognition to Leont’ev’s activity theory. Simultaneously, Witte indicates the crucial methodological difference in Leont’ev’s approach from Vygotsky’s theory that has to do with the choice of the unit of analysis:

Leont’ev’s theory of activity is informed by many of the same Marxist ideas as Vygotsky’s and Luria’s formulation of a cultural-historical psychology. In addition, Leont’ev’s theory of activity is similarly concerned with the development of consciousness and of higher mental functions. However, whereas Vygotsky and Luria took as their principal unit of analysis a task requiring the use of a goal-directed and mediated (and, hence, cultural) process, Leont’ev took activity, in general, as his unit of analysis. (Witte, 2005, p. 134)

However, Witte discusses only the logical implications of conceptual choices that differentiate Vygotsky’s usage of Marxist dialectic from other scholars without commenting on the role played by the Marxist dialectical method of analysis in this choice. The fact that Vygotsky employs Marxist dialectic both as a source of ideas regarding the philosophy of nature and at the same time exploits its power as a tool of thinking is not reflected in Witte’s inquiry. This criticism notwithstanding, we also recognize that Witte’s emphasis on the methodological push for the correct object or unit of analysis in Vygotsky’s scholarship is outstanding in its insight:
Surfacing repeatedly in Vygotsky’s work are questions regarding an appropriate methodology and appropriate unit(s) of analysis for studying the complex phenomena of consciousness and higher order mental functioning, both of which Vygotsky saw as requiring the study of dynamic processes. My brief overview of principal Vygotskian themes suggests that these phenomena gravitate around activeness and development as manifested in their genesis and their unfolding history. Together, activeness and development indicate something of the nature of the methodological problem. Both imply the need to attend to change that is ongoing and that is sustained through dialectical processes. (Witte, 2005, p. 133)

Nonetheless, at the end of the quotation above we can still observe that, although Witte makes a reference to the dialectical nature of psychological development, he does not elaborate on what such dialectic would imply. It would imply a discussion of the motive forces that drive this dialectical process and give it its unique quality – the social symbolically mediated character of the development of higher mental functions. Precisely this movement in the discussion would be needed to understand the true import of Vygotsky’s explanatory system.

Witte’s next step is to identify the proper object or unit of analysis, as it emerges from Vygotsky’s conceptual framework. Witte rejects Vygotsky’s earlier attempts (1962) to assign this role to word meaning and proposes the construct of task instead which appeared in Vygotsky’s later writings (1978). We find no justification of this choice, except for fact that it provides access to mediational means, the process of internalization which they support, and the zone of proximal development that can be abstracted from its structure. As we have already pointed out, in Vygotsky’s framework a full justification can only come from an account of the Marxist dialectical method. Witte’s argument reveals that Vygotsky faced a nontrivial goal of showing the inherent connection between mental phenomena and outward behavior so that the resulting conceptual framework would include both processes as organic components of a whole. We can, therefore, say that this idea constitutes the end criterion for selecting the unit of analysis that would conform to Vygotsky’s theory. We qualify this assertion by arguing that any selection
done in accordance with this criterion requires additional justification of the manner in which outward behavior relates to mental states. In other words, it is not enough to postulate a correlation between one’s outward activity in the physical world and concurrent mental activity. A genuine explanation of psychological functioning and development requires that the nature of this connection be explained. Vygotsky was able to solve this problem with the help of the Marxist dialectical method. His use of Marxist dialectic helped him to uncover the mechanism, coupling advanced forms of human activity to the patterns of mental functioning supporting this activity and enabling interpersonal cooperation during this process.

We now transition to Witte’s summary of A. Leont’ev’s activity theory which indicates that it has the same philosophical roots as cultural-historical psychology: “Leont’ev’s theory of activity is informed by many of the same Marxist ideas as Vygotsky’s and Luria’s formulation of a cultural-historical psychology” (Witte, 2005, p. 132). However, once Leont’ev’s allegiance to the Marxist outlook is established, the similarities of his theory with Vygotsky’s position seem to end. Although we certainly agree with Witte when he argues that Leont’ev tried to augment Vygotsky’s ideas by specifying the structure of human purposive activities, we detect no explanation as to what such a shift in emphasis might entail from the standpoint of Marxist philosophy. From Witte’s description of the construct of activity, we see that it implies hierarchical relations between three levels of human activeness, in the ascending order: operations, actions, and activity per se. Leont’ev does mention, however, that the components of activity, including the highest level in the hierarchy, can mutate into each other. The overall evolution of activity is driven by human needs that produce corresponding motivational structures:

Leont’ev’s principal contribution to the development of ideas set out initially in Vygotsky’s and Luria’s work was his theoretical view of activity itself. In this,
Leont’ev sought to identify the structure of practical human activity. For Leont’ev, practical activity comprises three levels, each of which can serve as a focus in analysis. The first level is activity itself. The second level is the level of actions, any number of which collectively constitute a given activity. The third level is that of operations, any number of which constitute a given action.

For Leont’ev, the structure of activity is hierarchical, which means that what functions at one time as, say, an operation can at the next moment function as an action or vice versa. The hierarchical structure that Leont’ev found in human activity is dependent on his conceptualization of three additional components of activity: (a) need and motivation, (b) goal or object of need, and (c) conditions. (Witte, 2005, pp. 134-135)

This, in a nutshell, is really all we can say about activity theory by way of conceptual description.

Assuming that further refinements cannot alter the conceptual shape of activity theory substantively, we have to ask what it might have to offer in terms of confronting the mind-body dualism that Vygotsky worked so hard to overcome. We have already demonstrated that Vygotsky understood that a solution to the problem of human behavior can only be found with proper methodology: “Not a single science represents such a diversity and plenitude of methodological problems, such tightly stretched knots, such insoluble contradictions, as ours. That is why we cannot take a single step without thousands of preparatory calculations and cautions” (Vygotsky, 1987, vol. 3, p. 329). From this contention, Vygotsky sets out a requirement for choosing the unit of analysis that is tacitly informed by Marxist philosophy. In his view, we can only select such units (theoretical constructs) of analysis whose essential internal relations or structures coincide with the structure of relations that characterizes the whole phenomenon which we are investigating:

In our view, an entirely different form of analysis is fundamental to further development of theories of thinking and speech. This form of analysis relies on partitioning of the complex whole into units. In contrast to the term “element,” the term “unit” designates a product of analysis that possesses all the basic characteristics of the whole. The unit is vital and irreducible part of the whole. The key to the explanation of the characteristics of water lies not in the
investigation of its chemical formula but in the investigation of its molecular movement. In precisely the same sense, the living cell is the real unit of biological analysis because it preserves the basic characteristics of life that are inherent in the living organism. (Vygotsky, 1987, vol. 1, p. 46)

We can see that the concept of activity used as an umbrella construct in Leont’ev’s explanations is a departure from Vygotsky’s dialectical analysis which seeks to expose systemic relations in the phenomena under investigation. From Vygotsky’s standpoint, activity taken as a unit of analysis is further decomposable into constituent elements that have the properties typifying its nature and thus constitute proper units of analysis in their own right. Vygotsky argues that it is a dialectical examination of these units making up activity that can elucidate its nature. Despite this crucial difference, we can still determine that Leont’ev’s approach remains faithful to the basic Marxist tenet that establishes the primacy of practical activity in the world over mental functioning. In this part, Leont’ev’s theoretical system relies on exactly the same premises as that of Vygotsky:

The conscious image, notion, concept have a sensory basis, but conscious reflection of reality is not just sensory experience of it. Even simple perception of an object is reflection of it not only as possessing form, colour, etc. but at the same time having a certain objective, stable significance, as, for example, food, a tool, etc. There must consequently be a special form of the conscious reflection of reality that differs qualitatively from the directly sensory form of psychic reflection peculiar to animals.

What is this concrete form in which men’s consciousness of the objective world around them really occurs? It is language, which is, in the words of Marx and Engels, men’s ‘practical, real consciousness’. Consciousness is therefore inseparable from language. Language, like man’s consciousness also, arises solely in the labour process, and to-gether with it. Language, like consciousness, is a product of men’s activity, a product of the group; only therefore does it also exist for the individual person. (Leontyev, 2009, p. 194)

Leont’ev is absolutely correct in singling out the role of language as a driving force of psychological development because of its dual role as a means of communication, occurring
during collective labor, and as a tool of thinking that is capable of representing the world symbolically and in a generalized fashion:

The direct connection of language and speech with men’s labour activity was the chief and basic condition through which they were evolved as bearers of the ‘objectified’, conscious reflection of reality. By signifying an object in the labour process, a word singled it out and generalised it for the individual consciousness precisely in its objective, social relation, i.e. as a social object.

Language thus functions not only as a means of men’s intercourse but also as a means or form of human consciousness and thought, also not yet separated from material production. It became the form, the vector of conscious generalisation of reality. That is why the abstraction of verbal meanings from the real object, which made their existence simply as facts of consciousness possible, i.e. simply as thoughts, simply ideally, happened at the same time as the subsequent separation of language and speech from directly practical activity. (Leontyev, 2009, p. 196)

Despite Leont’ev’s choice of activity as the principal unit of analysis, he expresses the same interest as Vygotsky in the genetic, generative mechanisms that underlie human mental activity. This line of thought takes him to the role of meaning as a special form of psychic reflection of the world. On the one hand, Leont’ev seems to link the structure of mental functions to the structure of actual activities that can be observed in real life:

In order to find this psychological character of consciousness we have to discard the metaphysical notions that isolate it from real life. We must, on the contrary, investigate the dependence of man’s consciousness on his mode of life, on his being. And that means that it is necessary to examine how man’s life relationships are built up in any set of socio-historical conditions and what is the special structure of the activity that those relations give rise to. It is necessary, furthermore, to examine how the inner structure of man’s consciousness also changes at the same time as the structure of his activity. The characteristics of the inner structure of consciousness are also its psychological ones.

We have already tried to show that a certain type of psychic reflection corresponds to a certain type of structure of activity. That dependence is also retained subsequently, in the stages of the evolution of human consciousness. The main difficulty in research here is to find the actual ‘generatrices’ of consciousness, its real inner relations that are not only hidden from our self-observation but are now and then contradicted by what the latter discloses. (Leontyev, 2009, p. 200)
On the other hand, Leont’ev’s position clearly coincides with Vygotsky’s emphasis on the properties of meaning as the correct access point to the exploration of mental organization:

Reality is revealed to man in meaning, but in a special way. Meaning mediates man’s reflection of the world inasmuch as he is aware of it, i.e. inasmuch as his reflection of the world is based on the experience of social practice and includes that.

A sheet of paper is reflected in my consciousness not only as something rectangular, white, and covered with lines and not only as a certain structure and a certain integrated form, but also precisely as a sheet of paper, as paper. The sense impressions I receive from it are refracted in my consciousness in a definite way because I have assimilated the corresponding meanings; otherwise the sheet of paper would just remain something white, rectangular, etc., for me. But when I perceive paper – and this is very important in principle – I perceive this real paper, and not the meaning ‘paper’. As a rule meaning is introspectively missing in my consciousness; in refracting the perceivable or the conceivable, meaning is not itself thereby recognised or thought about. That is a fundamental psychological fact.

Psychologically, meaning is thus the general reflection of reality developed by humanity and fixed in the form of a concept or knowledge, or even in the form of an ability or skill as a generalised ‘mode of action’, norm of behaviour, etc., that has become accessible to my consciousness (more or less fully and many-sidedly). (Leontyev, 2009, p. 203)

Thus, Leont’ev’s theory seems to coincide with Vygotsky’s position in its interpretation of the genetic roots of human psychology. This coincidence could, for example, be observed in the way Vygotsky sets out his analytical priorities when he describes the dynamics of higher psychological functions:

In our view, a system of psychological analysis that is adequate from the viewpoint of the theory of localization must be based on a historical theory of the higher mental functions. At the basis of such a theory lies a theory of the systemic and semantic structure of human consciousness. This theory proceeds from the paramount importance of (a) the mutability of the interfunctional connections and relations; (b) the formation of complex dynamic systems which integrate quite a number of elementary functions; (c) the generalized reflection of activity in consciousness. From this viewpoint of the theory defended by us these three aspects represent the most essential, fundamental, and united properties of
human consciousness. They form the expression of the law according to which not only the transition from inanimate matter to sensation, but also the transition from sensation to thinking, forms a dialectical leap. (Vygotsky 1987, vol. 3, 140)

From this description of psychological systems we conclude that Vygotsky prefers to consider outward manifestations of behavior only as points of entry that would allow him access to the elements of mental structures. For him, this amounts to recognition of the fact that the root causes of human functioning are hidden from plain view and, therefore, have to be analyzed indirectly.

In the citation above, we also observe Vygotsky’s continued references to Marxist dialectic which reaffirm our conviction about the importance of this method in his theoretical framework. By contrast, Leont’ev privileges the concept of activity as the main unit of analysis, which is obvious from his choice of the name for his theory – activity theory of human psychology:

1. Witte’s analysis of Vygotsky’s cultural-historical psychology and Leont’ev’s activity theory does not include an exposition of the specific ways in which Marxist dialectics informs their methodology. Only the presence of such an analysis would permit us to move away from mere postulation of the unity of mental and material activities and account scientifically for the mechanism that underlies it. The adoption of the Marxist materialist outlook in Vygotsky’s case means that he had to find corresponding material carriers through which such a connection is realized. He found them in the form of material symbolic systems, and above all speech. The correspondence between the outward manifestations of language and the mental functions it performs is treated by Vygotsky in his discussion of the relationship between speech and thinking. The details of this relationship are as follows:

2. The anthropoids do not manifest a close link between thinking and speech that is characteristic of man. In the chimpanzee, they are not connected in any way.

3. In the phylogensis of thinking and speech, we can almost certainly identify a pre-speech phase in the development of intellect and a pre-intellectual phase in the development of speech. (Vygotsky, 1987, vol. 1, p. 109)

Thus, the basic idea behind Vygotsky’s articulation of the relationship between speech and thinking is that they come about as independent psychological functions. In its origins, thinking is not entirely dependent on speech, which implies that nonverbal forms of thinking are not only possible but exist alongside verbal ones. However, the emergence of speech as an interpersonal
psychological function gives rise to new forms of thinking that draw on its central properties: signification and generalization. Speech units become vehicles of thought.

So far, we can be clear about the following facts, regarding Vygotsky’s theory: (a) he was able to find a consistent conceptual representation of the unity between psychological development and material activity thanks to a rigorous implementation of the key postulates of Marxist philosophy; (b) he was able to describe the nature of the connection between these two planes of human functioning with the help of the construct of mediation; (c) he was able to fill the construct of mediation with material content by introducing the concept of mental tools and assigning this role to speech and other sign systems. We now face the problem of finding a similar account of human development in Leont’ev’s activity theory. Witte claims that where Vygotsky discusses mediational tools and their role in connecting behavior with mental processes, Leont’ev advances a similar argument with the help of the notion “division of labor”:

Leont’ev’s specification of the structure of practical activity is considered one of his main contributions to the activity theory perspective. A second contribution might be his attempt to work out the implications of Marx’s ideas about the importance of the division of labor in practical human activity. Whereas Vygotsky’s focus on the genesis and history of higher order psychological functioning in individuals left issues related to the division of labor implicit and undertheorized in his treatments of internalization and the zone of proximal development, division of labor became a major emphasis in Leont’ev’s theory of activity. Accordingly, one finds in Leont’ev’s writings a good deal more attention being paid to practical human activities in which divisions of labor seem more clearly demarcated than in Vygotsky and Luria, who focused on mediation principally in experimenter-participant and mother-child dyads. (Witte, 2005, p. 136)

We will refrain from examining this construct from the standpoint of the Marxist dialectical method until we discuss this method in greater detail later. This elaboration, among other things, will serve to deflect Witte’s criticism that the notion of the division of labor is underdeveloped in Vygotsky’s work. For our current purposes, it will be sufficient to note that this term refers to
aspects of human material behavior in exactly the same way as the construct of activity itself. We, therefore, have to acknowledge that our previous suspicion, concerning Leont’ev’s tendency to reduce the problem of human functioning to outward behavior, is once again reinforced.

We have already shown that Witte preferences Leont’ev’s approach when he focuses on the construct of task. Witte’s analytical movement is in fact opposite to that carried out by Vygotsky when he argues in favor of examining word meaning in order to understand the nature of psychological processes and the structure of consciousness that results from their unfolding:

We found the unit that reflects the unity of thinking and speech in the meaning of the word. As we have tried to show, word meaning is a unity of both processes that cannot be further decomposed. That is, we cannot say that word meaning is a phenomenon of either speech or thinking. The word without meaning is not a word but an empty sound. Meaning is a necessary, constituting feature of the word itself. It is the word viewed from the inside. This justifies the view that word meaning is a phenomenon of speech. In psychological terms, however, word meaning is nothing other than a generalization, that is, a concept. In essence, generalization and word meaning are synonyms. Any generalization – any formation of a concept – is unquestionably a specific and true act of thought. Thus, word meaning is also a phenomenon of thinking. (Vygotsky, 1987, vol. 1, p. 244)

Again, we have a chance to observe Vygotsky’s insistence on choosing such conceptual units that penetrate both the mental and the material planes of analysis, joining them in dialectical unity. This is yet another clue, indicating Vygotsky’s use of Marxist philosophical principles. We are now at the point of having amassed enough such clues to restate the following: we find Witte’s argument to be very satisfactory intellectually, but at the same time we continue to get a distinct impression that his account does not penetrate to the deeper level of Vygotsky’s ideas represented by the Marxist approach.
One other problem that may prove insurmountable for activity theory is reproducing the systemic nature of Vygotsky’s treatment of the problem of consciousness. We have seen from the previous citations that Vygotsky supported the view according to which consciousness reflects activities in a generalized way. In other words, consciousness is not a mirror-like reflection of the world that a person attends to with the help of the senses. Perception undergoes qualitative transformations before it can be included or interiorized into the structures of mind. Vygotsky stresses the need to explain the nature of these transformations by revealing their mechanisms and driving forces.

This part of his argument coincides with that advanced by Leont’ev because both scholars adhere to the Marxist interpretation of the origins of the higher forms of human mental activity:

We have seen that consciousness can only arise when man’s relation to nature has become mediated by his labour connections with other men. Consciousness is precisely, consequently, ‘from the very beginning a social product’.

We have seen, furthermore, that consciousness became possible only in conditions of active influencing of nature, i.e. in conditions of labour activity by means of tools which is at the same time the practical form of human consciousness as well. Consciousness is consequently a form of active, comprehending reflection.

We have seen that consciousness is possible only given the existence of language, which arises simultaneously with it in the course of labour. (Leontyev, 2009, p. 196)

Witte does not emphasize Leont’ev’s arguments cited above, with the exception of the division of labor. Still, the exact role that labor plays in psychological development remains obscure because the tripartite connection between language, communication that takes place in the course of labor activities, and the dual function of language as a communicative means and a vehicle of thought is not elucidated with sufficient clarity. In fact, Leont’ev himself refrains from exploring the implications of this connection, and specifically the link between speech and thinking, possibly because his choice of the construct of activity as the unit of analysis is too general for a close examination of language. Thus he limits his analysis to a declaration that language is a sine qua non.
non of the existence of consciousness without elaborating on the properties of language that make consciousness possible and supply it with a particular structure. By contrast, Vygotsky makes this problem into a cornerstone of his investigation by exploring the psychological significance of linguistic units:

The word was characterized by Vygotsky as a “reversible reflex-stimulus.” It is in the first place directed toward the other persona and only in the second place toward the person who generates it. To the extent that the word is a mechanism of consciousness, it follows that this mechanism is identical with social contact. That is why Vygotsky defines consciousness as the “social contact with oneself.” For Vygotsky the selection of the word as a special stimulus which plays the role of regulator of human behavior meant that when the speech signal is included in the guidance of this behavior an intellectual, logical aspect is included as well. This implied essential amendments not only to the traditional treatment of the conditional reflex associations on the level of human behavior, but also to the explanation of speech associations by the principle of the frequency of repetitions popular at the time. (Vygotsky, 1987, vol. 3, p. 349)

Keeping in mind Vygotsky’s interpretation of the genesis of consciousness outlined above, we have to conclude that the construct of activity is auto-referential because it does not provide an explanation of the internal relations that this concept stands for and that include material activities and language whose interplay defines the nature of consciousness. Granted that Leont’ev and his followers do not object to investigating consciousness in semiotic terms, as Vygotsky proposes, we still do not see what procedure or mechanism they could bring to bear on the problem, given their interpretation of the construct of activity.

Witte’s selection of the construct of task as the main unit of analysis is in agreement with Vygotsky’s framework. Our preceding analysis indicates that this notion could potentially escape the deficiencies that are already apparent in the activity framework if, in addition to the material side of tasks, we could elaborate their psychological content. Vygotsky’s assertion about the generalized reflection of activity in consciousness provides a useful clue regarding the direction
in which we need to go. We need to postulate a psychological function that allows for
collection of mental models of activity, which connects us directly to Vygotsky’s notion of
word meaning and its role in the formation of consciousness. Another vital connection in this
respect is the idea of mental tools (signs and their meanings), mediating one’s relation to the
environment and at the same time providing a way of controlling one’s own behavior. This means
that if we postulate generalized representations of tasks on the mental side of things, we will
simultaneously affirm their connection to material behavior through the notion of control. By the
notion of control we mean the ability of words to act as self-stimuli: instead of manipulating
objects directly, one can use linguistic signs to construct representations of these objects,
manipulate them, and be away of this manipulation. Such representations, while maintaining their
essential connections with the parts of reality to which they refer, begin to act as a means of
channeling one’s psychological activity and regulating behavior with respect to this reality. Such
an explanatory scheme proposed by Vygotsky has the advantage of maintaining a dialectical
unity between the mental and material planes of behavior during analysis.

Our dialogue with Witte’s presentation of Vygotsky’s cultural-historical psychology and A.N.
Leont’ev’s activity theory has to mention Engeström (1990, 1999) whose version of activity
theory paves the way for the rest of Witte’s argument. In effect, Engeström tries to unite
Vygotsky’s and Leont’ev’s approaches by combining Vygotsky’s mediational triangle with the
hierarchical model of activity. As a result, his scheme blends psychological and social notions to
produce the following model:
As we can see, Vygotsky’s mediational triangle occupies the top of the model (the level of the individual), while the triangles at the base represent social relations. Witte comments that apparently the relations, taking place among the components of the model, are dialectical, but we have to realize that this word is just a label that, in itself, explains nothing unless we find a way to account for the nature of these relations that makes them dialectical. Clearly, Witte had not found a lucid explanation of Marxist dialectic in Engeström and he is not providing one himself to describe the actual way in which the new model works:

One of the difficulties I encounter in Engeström’s and Leont’ev’s theories has to do with their underlying conceptions of activity and the application of those conceptions in the study of activity and activity systems. Engeström, similar to Leont’ev, conceptualized every possible human engagement with either the social or the material world as an activity, as a component of activity, or as an activity system. Moreover, both either implicitly or explicitly link a given activity or activity system with other activity systems that affect it and that are affected by it. In short, everything human is in some sense related in some way to
activity. From a philosophical perspective, I find much value in such a representation of what it means to be human. In addition, I should note, that such a representation seems altogether compatible with the philosophical premises underlying the earlier work of Vygotsky and Luria, which I greatly admire. However, from a research perspective, I find Engeström’s and Leont’ev’s conceptualizations of activity and activity systems difficult, if not impossible, to apply. (Witte, 2005, pp. 139-140)

Witte’s dissatisfaction with activity adopted as the principal unit of analysis by Leont’ev and Engeström is well warranted because any part of human existence can be described as some form of activity. Activity theory offers no insights into the nature of human activity, apart from declaring its intrinsic connection to collective labor and language. On the contrary, Vygotsky’s position focuses on a thorough investigation of these components of activity that give it its characteristic structure and properties. Furthermore, the notion of symbolic mediation related to this description bridges the gap between the accounts of psychological activity and the observable material activity unfolding in the physical world.

To be sure, Leont’ev’s framework does credit Vygotsky with the “capital” discovery of the principle of interiorization which eliminates the Cartesian mind-body dualism by demonstrating that “exterior and interior activity possesses the same general structure” (Leont'ev, 1978, p. 44). Furthermore, Leont’ev claims that the idea of investigating activity as the principal unit of analysis had appeared in Vygotsky’s early writings in the context of the principle of mediation with the help of psychological tools (instrumental acts) and of the notion of the motivational sphere in consciousness. He goes on to argue that this preliminary account of human activity suffers from excessive abstractness. Yet, it is exactly the abstractness of the term that appeals to Leont’ev: “But precisely because of its abstractness it can be taken as the initial point of departure for further investigation” (Leont'ev, 1978, p. 45). Subsequent reasoning leads Leont’ev to the clarification that the construct of activity refers to a multitude of possible concrete activities,
which he explains by the presence of differing motives. According to Leont’ev, the object of an activity equals its motive which in turn can be either material or ideal. At this point Leont’ev’s oppositions come very close to reinstating the mind-body dualism because his explanation mixes up the phenomena that exist on the mental plane and the elements of material activities that can be observed. Leont’ev does not highlight the qualitative differences between these two facets of human behavior that hinge on the role of linguistically mediated social connections during labor activities. The question of symbolic mediation and the properties of the mediational means that act as its vehicles does not enjoy the same degree of attention in Leont’ev’s work as it does in Vygotsky’s analysis.

Let us now see what Witte has to say about the construct of activity in theory making and practical applications in research. On the plus side, Witte observes that activity typifies the human condition: “In short, everything human is in some sense related in some way to activity. From a philosophical perspective, I find much value in such a representation of what it means to be human” (2005, p. 139). However, Witte immediately notes that this notion is hard, if not impossible, to use in actual research due to the following two problems: (1) the problem of boundary/focus; (2) the problem of the unit of analysis: “Such conceptualizations, however theoretically compelling and philosophically agreeable, offer very little help in designing research. Specifically, these conceptualizations bring with them focus and/or boundary problems, essentially problems for research design” (p. 140). We will now take a closer look at each of the problems.

Concerning the boundary problem, Witte’s complaint is that the construct of activity does not give us enough focus in research design. If anything in human life can be regarded as activity,
then how can we set the conceptual and material limits for our study? We have to agree with Witte that in this situation we have only two options: we can either set these boundaries arbitrarily or we have to introduce boundary criteria that are external to activity theory. Witte notes that Engeström often resorts to the second option (2005, p. 140). Both options, however, put the conceptual value of the construct of activity in question because of the fundamental difficulty involved in explaining the inner workings of activity, or the internal relations stipulated by this concept. Witte sees no way of analyzing activity, other than in terms of activity itself: “what is missing in Engeström’s and Leont’ev’s theories of activity is, in effect, the specification of a unit or units of analysis that would allow me to account for or to explain activity in terms of something other than itself” (141). The problem, then, lies in the question what such a tautological explanation can give us in terms of understanding the dynamics of inner relations within activities.

Finally, Witte brings up the point that we already mentioned when we noted that merging Vygotsky’s model of mediation with activity theory, as proposed by Engeström, may not be justified from the standpoint of the Marxist dialectical method. Witte wishes to know whether Engeström’s model describes the construct of mediation as an element of basic activity structure or it represents the entire structure of activity. Evidently, in the latter case the model has to answer Witte’s criticism above. However, if it is, after all, a depiction of mediational processes, we have to give it an entirely new interpretation. In fact, this is precisely what Witte tries to do. He proposes to fold the corner triangles of Engeström’s model to convert it into a pyramid. This three-dimensional representation now has mediating artifacts, rules, and division of labor at the apex, which means that we have achieved a focus on three aspects of mediation, while preserving the social aspects of activity at the base of the pyramid. In essence, Witte is returning to
Vygotsky’s original framework, with an added emphasis on situations when mediation concerns
groups of people. As intriguing as Witte’s analytical move is, we still have to produce some
criteria to justify it. Such justification is important because, to follow in Witte’s steps, we must
introduce elements of activity theory into Vygotsky’s cultural-historical psychology. As we now
realize, the criteria that warrant changes in the explanatory paradigm have to come from the
Marxist philosophical method which was the source of the notion of human activity in the first
place. We note that Witte’s transformation is not dialectical but is based on mechanistic logic. We
also notice that his choice of the unit of analysis undergoes an unexpected shift. While earlier we
saw Witte argue for the construct of task for this role, now he seems to have a change of mind in
favor of the construct of mediational means derived from his version of Engeström’s model:

None of this, however, is to say that activity is an empty and, therefore, useless
construct. To the contrary, activity as a construct is potentially every bit as
powerful and rich in domains of the human sciences as the construct of gravity is
in physics. However, you cannot learn about activity directly, any more than you
can learn about gravity directly. Accordingly, it is necessary—and this is one of
the many important lessons of Vygotsky and Luria—to study it indirectly. In the
next section, I focus on mediational means as a possible unit of analysis for
studying activity indirectly, through the case of the social semiotic of the speed
bump. I end by describing the particular discovery heuristic that underlies my
analysis of the speed bump and argue for the heuristic’s wider applicability.
(Engeström, 2005, pp. 142-143)

Witte mentions three advantages of using mediational means as the unit of analysis: (1) there are
no unmediated human activities; (2) mediational means is a construct that contains past, present,
and future relations that determine various activities; (3) mediational means can be related to
Leont’ev’s and Engeström’s construct of activity. We can see that he is conducting his analysis
from the mechanistic standpoint that implies only relations of cause and effect. Witte fuses
Vygotsky’s premises with assumptions from activity theory without analyzing the internal
relations that the relevant constructs imply. It is uncertain how compatible Vygotsky’s and
Leont’ev’s theories are for this purpose. Also, we would like to know more about the rules that
should govern the choice of the unit of analysis. We wonder as well if we could adopt a certain method of analysis that would help us to find answers to these questions. Indeed, the final chapters of this work argue that Vygotsky viewed the Marxist dialectical method as an analytical procedure that helps to define proper units of analysis. We cannot say that the dialectical method enjoys the same degree of attention in Witte’s work. Let us illustrate this assessment on a concrete example of conceptual distinctions made by Vygotsky for the construct of mediational tool.

As we understand from the arguments coming from the activity theory camp, mediation appears to be an undifferentiated concept. Activity theorists do not seem to separate symbolic mediational tools from material ones because the function of mediation is more important to them than the nature of mediational means used to fulfill it. Since Witte appears to be returning to Vygotsky’s original theory, he is obliged to reintroduce this distinction. Vygotsky distinguishes between two kinds of tools – material and psychological, cautioning us not to equate them:

Since the principle of signification leads us into the area of artificial devices, the question arises as to its relations to other forms of artificial devices, of its place in the general system of man’s adaptation. In a certain specific relation, the use of signs shows a certain analogy to the use of tools. Like all other analogies, this analogy cannot be carried to the bitter end, to a full or partial coincidence of the major characteristics of the concepts being compared. For this reason, we must not anticipate finding much similarity to working tools in these devices that we call signs. Moreover, together with similar and common characteristics in once activity or another, we must ascertain the essential characteristics of the difference in a certain relation – contrast. (Vygotsky, 1987, vol. 4, p. 60)

Vygotsky goes on to explain the grounds for the analogy between psychological and material tools in terms of their instrumental function. He says that there is a certain similarity in the way material tools give us the opportunity to make desirable changes in the environment and the way psychological tools (signs) provide us with leverage over our own psychological processes. First,
Vygotsky warns us that we should not get carried away by the force of this analogy and postulate a structural coincidence of function for material and psychological tools. Second, Vygotsky draws our attention to the markedly different direction of mediating influence that comes from these two types of tools. Material tools, he argues, mediate our physical efforts aimed at changing the properties and characteristics of material objects to make them serve our needs. Mediating signs, on the contrary, are directed inwards, to our own mental states and processes; they help us control our own or other people’s behavior:

Each specific stage in mastering the forces of nature necessarily corresponds to a certain stage in mastering behavior, in subjecting mental processes to the will of the man. Man’s active adaptation to the environment, the change of nature by man, cannot be based on signalization, passively reflecting natural connections of all kinds of agents. It requires active closure of connections of the kind that are impossible under a purely natural type of behavior, that is, behavior based on a natural association of agents. Man introduces artificial stimuli, signifies behavior, and with signs, acting externally, creates new connections in the brain. Together with assuming this, we shall tentatively introduce into our research a new regulatory principle of behavior, a new concept of determinacy of human reaction which consists of the fact that man creates connections in the brain from outside, controls the brain and through it, his own body. (Vygotsky, 1987, vol. 4, p. 55)

So we can see that Vygotsky’s interpretation of the term “mediational means” applied to the mental sphere is drastically different from his understanding of the function performed by material tools in practical activities. Such differences in interpreting the internal relations denoted by one and the same construct of tool are impossible to understand with the help of formal logic and mechanistic thinking. The only way we could make sense of Vygotsky’s analysis is by understanding his analytical method – Marxist dialectic. Witte embraces such an interpretation of the key construct of mediation when he suggests that Engeström’s model of activity (see Figure 3 above) could be reinterpreted as a model of mediational processes that interface material activity with psychological functions:
If it is a theoretical model of mediation, it comes closer to an appropriate unit of analysis while, at the same, creating a stronger link between itself and the work of Vygotsky and Luria and creating a greater conceptual space between itself and the work of Leont’ev.

I’m intrigued by the possibilities that present themselves if we understand Engeström’s model as a theory of mediation that, as I’ve indicated, is one way in which he presents it. These possibilities are particularly salient if Engeström’s two-dimensional representation is transformed into a three-dimensional object, in this case a tetrahedron or pyramid. Using Engeström’s interior Subject-Object-Community triangle as the base of the pyramid, you then construct the three sides by folding upward the three triangles on the perimeter of the base, that is to say, (a) the Subject-Rules-Community triangle, (b) the Community-Division of Labor-Object triangle, and (c) the Subject-Object-Mediating Artifacts triangle. The resulting pyramid provides for the convergence of Mediating Artifacts, Rules, and Division of Labor at the apex of the pyramid. In that three-dimensional model, Mediating Artifacts, Rules, and Division of Labor would appear to be aspects of the same phenomenon, namely, mediation in general. (Witte, 2005, pp. 141-142)

In this context, Witte’s struggle to determine the unit of analysis that would conform to the premises of Vygotsky’s theory and, at the same time, enable him to use activity theory is predictable. Witte’s emphasis falls squarely on the object of analysis, and he approaches Vygotsky’s, Leont’ev’s, and Engeström’s theorizing with this metric in mind as well. We have been arguing throughout that, like Vygotsky, Witte ought to begin by articulating a method of analysis or adopting it from the work whose premises he is using. As we showed above, analyzing the functions of mediational means requires distinctions that, according to Vygotsky, can only be made with the help of Marxist dialectic. The analysis of mediational means is a twofold process that requires simultaneous attention to mediational means as symbolic artifacts and mediational means (scientific constructs or concepts) used as conceptual vehicles of analysis. Vygotsky envisions Marxist dialectics, first and foremost, as a mental tool that aids in gaining control over theory making and its empirical verification. We do not find this argument presented or implied in Witte’s article, or in any of the scholarship that enters his analysis.
We have determined so far that Vygotsky’s analysis is moving inwards, into the structure of human psychological functions and their relationship to material activities. Witte’s case study of speed bumps interpreted as mediational means shows that his thought travels in the opposite direction – outwards, into the social (intrapsychological) environment: “I focus on mediational means as a possible unit of analysis for studying activity indirectly, through the case of the social semiotic of the speed bump” (Witte, 2005, p. 143). Therefore, we probably have a good reason to assume that Witte’s position is closer to activity theory than Vygotsky. Insofar as this is true, it inherits the flaws of activity theory that Witte’s own analysis discovers. We can now plot this conclusion on a simple diagram to contrast the logic of Witte’s analysis to that of Vygotsky visually:

![Diagram contrasting Vygotsky and Witte's analyses](image)

**Figure 3: the direction of Witte’s analysis (2005) argument**
Witte’s examination of the speed bump as a mediational tool yields a classificatory framework that, Witte argues, is “consistent with the most important insights and findings that Vygotsky and Luria brought to the development of cultural-historical psychology” (2005, p. 153). His “heuristic” is a table of relations sustained with the help of mediational means. Witte subdivides these relations into three types: material, functional, and structural. Each type of relations gets two kinds of descriptions: synchronic and diachronic. Additionally, the table includes a description of the artifact that acts as a mediational tool, consisting of three parts: construction, cost, and design (Witte, 2005, p. 153). We can see from this description that Witte’s approach is classificatory, not dialectical, because it refrains from analyzing the material, functional, and structural relations brought about by mediational means as elements of psychological functioning or development. Thus we have to conclude that Witte’s claim that his method of analysis conforms to Vygotsky’s principles cannot be substantiated. In fact, Vygotsky would have objected to the term “heuristic” because it implies speculation. Vygotsky’s objective was to provide a scientific account of human functioning that would illuminate its essential structural principles. We have already touched on the most important aspect in Vygotsky’s approach which describes the nature of consciousness and its relation with material activities. His approach is scientific because (1) through its main premises it is connected with the Marxist materialist dialectic which describes the most general laws of nature, (2) uses Marxist dialectic as a method of analysis which corresponds to Marxist materialist epistemology, and (3) has an empirical basis in observations and experiments. Since none of these criteria applies to Witte’s heuristic, its connection to Vygotsky’s theory could be made more forcefully.

Details of Witte’s analysis of the speed bump contain other interesting inconsistencies. For example, he argues that “the speed bump may, indeed, be the ultimate nonhuman tool for social
regulation” (Witte, 2005, p. 150). The term “nonhuman tool” is an oxymoron because the
construct of tool always implies human agency in Vygotsky. We have to object to this
characterization because a speed bump is very much a human tool fabricated to the likeness of
naturally occurring bumps in the road surface. We can also reason that drivers’ reaction to
artificial speed bumps is not too different from their reaction to other road obstacles. In the spirit
of common sense, we can say that speed bumps function as mediational tools only for the people
who plan or carry out road construction. From the standpoint of drivers, speed bumps are just a
type of road obstacles that cause them to reduce speed. When we drive, we do not think about the
multifaceted semiotic activity embodied by speed bumps. We simply slow down. Therefore, we
could argue that speed bumps, and the social relations that Witte imputes to them, do not enter
one’s higher psychological functions while driving. Hence, there is no large-scale semiotic
activity taking place: the only reaction speed bumps bring forth in drivers is braking on reflex. At
this point Vygotsky would simply comment that speed bumps call for activation of Pavlovian
conditioning: when you see the bump, put your foot on the brake pedal. We also note that speed
bumps are hardly unique in their function: a fence, for instance, commonly serves a similar
purpose of limiting and channeling human behavior. Overall, it is our conclusion again that
Witte’s analysis of speed bumps does not distinguish dialectically between material and
psychological tools, which is an essential distinction in Vygotsky’s theory.

In summary, although we have pinpointed a number of shortcomings in Witte’s analysis, we must
conclude that he raised two important questions of method. First, in our approach to scientific
analysis we have to understand fully the conceptual boundaries that we introduce with our
research constructs. Second, from the object of our inquiry we have to abstract proper units of
analysis that embody its most essential internal and external relations. However, as we review the
details of Witte’s argument, we can feel his uncertainty about the general procedure of the analysis. For example, Witte appears to change his mind about the proper unit of analysis once he found the notion of activity to be inadequate for this role. We detect his apparent desire to return to Vygotsky’s theory in search of criteria that would help him to justify his explanatory framework. Yet in the end, Witte produces a classification of relations embodied by mediational tools without reference to their nature (psychological or mental versus material) that blends Vygotsky’s framework and activity theory indiscriminately. We keep noting that Witte’s interpretation of Vygotsky’s theory is rooted in the Cartesian, mechanistic worldview based on formal logic and relations of cause and effect. In the end, we are compelled to assert that Witte’s reading cultural-historical theory is incompatible with Vygotsky’s commitment to Marxist materialist dialectic and his use of the dialectical method of analysis. Our account of Marxist dialectic in the chapters that follow will serve to add the necessary levels of detail to this conclusion.

**Russell: reification of the concept of activity**

David R. Russell is credited for his comprehensive history of writing instruction in the U.S. (Russell, 2002) and research into writing as activity (Bazerman & Russell, 2002). Russell’s other contributions concern computer-supported instruction across the curriculum, such as online multimedia case studies, international writing instruction, and portfolio assessment. The theoretical side of his work centers around the significance and explanatory power of activity theory in conjunction with educational technologies and methodology, with a secondary focus on writing. One such connection is made with a novel term “distributed learning.” The concept of distributed
learning alludes to the more general notion of distributed cognition (e.g., Latour and Woolgar [1986], Cole and Engeström [1993], Salomon [1993], Zhang and Norman [1994], Hutchins [1995], Bazerman [1997], Hutchins and Klausen [1998], Dias, Freedman, Medway, and Pare in Cushman, ed. [2001], Bazerman and Russell [2002]). We can obtain a brief overview of the distributed cognition paradigm from Hutchins (1995) and Hutchins and Klausen (1998, pp. 15-34). According to these authors, distributed cognition is a theory of human behavior that explains the cognitive properties of people and their informational environment. Hutchins is opposed to the view that cognition is strictly a property of the mind and insists on considering its mental and social properties together: “The emphasis on finding and describing ‘knowledge structures’ that are somewhere ‘inside’ the individual encourages us to overlook the fact that human cognition is always situated in a complex sociocultural world and cannot be unaffected by it” (Hutchins, 1995, p. xiii). The complementariness between social, material, and mental sides of cognition is reflected in Hutchins’s rationale for choosing a unit of analysis:

The proper unit of analysis for talking about cognitive change includes the socio-material environment of thinking. Learning is an adaptive reorganization in a complex system. It is difficult to resist the temptation to let the unit of analysis collapse to the Western view of the individual bounded by the skin, or to let it collapse even further to the “cognitive” symbol system lying protected from the world somewhere far below the skin. But, as we have seen, the relevant complex system includes a web of coordination among media and processes inside and outside the individual task performers. The definition of learning given here works well for learning situated in the socio-material world, as it works equally well for private discoveries made in moments of reflective thought. (Hutchins, 1995, p. 289)

Furthermore, Hutchins and Klausen elaborate on the four-stage explanatory strategy used in the distributed cognition paradigm: (1) video and audio recording; (2) transcribing; (3) a description of actions based on the transcript form the previous stage; (4) interpretation of the described actions. It appears that for Hutchins and Klausen the theory of distributed cognition is not so much a hypothesis that explains the nature of human behavior but an analytical device; however,
they do mention that one of the central notions in the theory is derived from the idea of “propagation of a representational state across a series of representational media” (1998, p. 19).

The authors are apparently concerned that their analytical approach may not be considered scientifically robust, so they “insist that the connections between the data and the theory must be established explicitly” (Hutchins & Klausen, 1998, p. 17). They believe that they accomplish this task as they “weave together the data, the actions, the interpretations, and the ethnographic grounding as they are needed in a narrative that seeks to represent a theoretical account of the observed events” (Hutchins & Klausen, 1998, p. 19). We can expect with a reasonable degree of certainty that the “weaving together” of the data will only be as robust as the analytical framework underlying it. Doubtlessly, we agree with Hutchins and Klausen that complete scientific objectivity is a false notion, but we should nevertheless inquire about the criteria that the theory of distributed cognition might have to offer in this regard. In fact, we learn from the authors that the actual paths along which information (or “a representational state,” as it is defined above) propagates cannot be predicted (Hutchins & Klausen, 1998, p. 21). What this means in methodological terms is that one of the central notions in the theory of distributed cognition has no predictive power. In this light, the reluctance of the authors to discuss distributed cognition as a theory of behavior is understandable because we do not see how an explanatory paradigm with no predictive power could qualify as a scientific theory. It is a similarly precarious move to call it an explanatory paradigm because, in the absence of a corresponding theory, there is no way in which we could hope to construct an adequate method of analysis. However, Hutchins and Klausen do have a theoretical model that underlies their methodology which we can deduce from the following statement: “We can now see that the information moved through the system as sequence of representational states in representational media. From speech channels to internal memories, back to speech channels, to the physical setting of device. Its representation in
each medium is a transformation of the representation in other media” (1998, p. 27). The references to information and its sequential movement in this assertion suggest that we are dealing with a linear model of communication in which information is parceled out and moved through communication channels to be processed by its participants. This is a mechanistic representation of human cognition and activities that obscures their dialectical nature because it does not take into account the role of mediating psychological tools (signs) whose mastery brings about qualitative changes in mental development. Thus, based on the implied epistemological model, we determine that the concept of distributed cognition explains only the external properties of human communicative behavior, but cannot penetrate the inner psychological mechanisms, governing it. As we move on to Russell’s notion of distributed learning, we should also note that the concept of distributed cognition used as an analytical method provides no means of discovering the connection between psychological structures and observed activities.

The focal point in Russell’s work that employs the activity theory paradigm and the notion of distributed learning is the nature of the connection between writing practices outside academia and writing in educational settings. He seeks to uncover the influences that social and economic structures exert on educational procedures and activities in the classroom and vice versa:

To address these questions, the author synthesizes Yrjö Engeström’s version of Vygotskian cultural-historical activity theory with Charles Bazerman’s theory of genre systems. The author suggests that this synthesis extends Bakhtinian dialogic theory by providing a broader unit of analysis than text-as-discourse, wider levels of analysis than the dyad, and an expanded theory of dialectic. By tracing the intertextual relations among disciplinary and educational genre systems, through the boundary of classroom genre systems, one can construct a model of ways classroom writing is linked to writing in wider social practices and rethink such issues as agency, task representation, and assessment. (Russell, 1997, p. 504)
Distributed learning, just like its parent concept “distributed cognition,” appears to belong to the same category of research constructs as activity because it denotes a large array of processes and phenomena that extends beyond human beings into the material world. Such broad inclusiveness makes distributed learning vulnerable to the boundary problem outlined by Witte (2005) for the construct of activity. Another profound problem is related to Russell’s lack of attention to the problem of dualism between the social and the individual accounts of human nature. As we have shown, this problem is dealt with extensively by Vygotsky who brings it up repeatedly in his discussions of methodology. First, we cannot determine the boundaries within which distributed learning takes place, precisely because it is “distributed.” Second, as long as distributed learning is not viewed as a dialectical process taking place at the juncture of the social and the individual, all explanations that we try to provide with its help will remain tautological. In other words, instead of explaining the intrapsychological and interpsychological relations implied by the construct of distributed learning, we will be saying that distributed learning happens simply because it is distributed. We will show in the later chapters that the Marxist method of analysis on which Vygotsky’s cultural psychology is based is strictly opposed to such explanations. However, we can say right away that a picture of distributed learning as an activity that Russell arrives at in the end is one of an autonomous phenomenon that is divorced from a dialectical understanding of human mental functions that, according to Vygotsky, emerge at the intersection of social and individual psychological processes. This is an indication that Russell, unlike Vygotsky, adheres to a dualist point of view on human development (the social and the individual viewed in separation and in causal interaction).

Since the construct of distributed learning resists precise definition, Russell chooses to use the term contextually without delving into its ontological and epistemological properties. We can ask
the following questions in this connection: what precisely is distributed? Should a researcher be concerned with the physical distribution of the subjects? Is a distribution of connections between them implied? Could the construct be interpreted as describing the subjects’ thought processes? Is the distribution of learning a natural expression of its properties as a social process or is it something that is imposed on learning by design? The list of questions could be continued in the same vein. The presence of such uncertainties suggests deeper epistemological problems.

Russell’s interpretation of activity theory abandons the Vygotskian approach: “AT (activity theory) understands learning not as internalization of discreet information or skills by individuals, but rather an expanding involvement over time – social as well as intellectual – with other people and the tools available in their culture” (Russell, 2002, p. 65). In fact, Vygotsky would correct him by saying that during learning people are internalizing skills as they expand their social involvement because both of these strands of development are theoretical abstractions of something that we should regard as a cohesive dialectical process. Precisely for this reason we cannot say that their involvement is social and intellectual because separating these factors reinstall the dualism of the social and the individual that we mentioned above. We determine, therefore, that Russell’s account bypasses the problem of the transition from participation in collective activities to the level of psychological functions because Russell rejects Vygotsky’s construct of interiorization that refers to this relationship. In fact, Leont’ev (1978) was aware of this deficiency in activity theory when he speculated about a two-level transition from the global aspect of activity to the dimension of individual psychological functioning on the level of concrete goal-oriented tasks but did not provide a definitive answer as to how the transition could be explained within activity theory. For Russell this problem does not appear to be significant. Instead Russell (2002) uses the general notion of learning with a qualifying descriptor
(distributed) to explain the relevant activities without attending to the underlying psychological mechanisms that enable it.

Thus, in Russell (2002) the construct of activity subsumes and replaces material human agency. Activity is an abstraction, referring to situations in which we observe the material actions of people, so we cannot use this construct as if it meant a real thing or object. Russell’s argument seems to be doing the opposite by reifying the notion of activity and dissolving the role of the individual in the construct of the social. Russell admits that the individual domain does not qualify as a unit of analysis because only the level of activity can yield such a construct: “For AT (activity theory), the activity system – not the individual – is the basic unit of analysis for both cultures’ and individuals’ psychological processes, including learning” (Russell 2002, p. 67). Cultural-historical theory objects to such an interpretation. Vygotsky argues that participation in collective activities is reflected in the formation of corresponding psychological functions which come together in complex dynamic systems of varying permanence. Activity theory does not make such distinctions, which is why Russell’s argument falls short of the standards set by Vygotsky’s theory. As we already mentioned, Vygotsky’s position is that intrapsychological processes derive from interpsychological relations through interiorization based on mediating symbolic means or tools. In this light, activity theory facilitates Russell’s departure from the premise of Vygotsky’s theory that requires that social dimension be used only as a description of the manner in which people’s individual psychological functions are shaped. This imperative is also highlighted in the summary of activity theory that Russell borrows from Cole: “As Cole states, AT (activity theory) ‘rejects cause and effect, stimulus response, explanatory science in favor of a science that emphasizes the emergent nature of mind in activity and that acknowledges a central role for interpretation in its explanatory framework’” (Russell 2002, p. 67). Regrettably,
here Russell cites a principle that controverts his own understanding of activity theory. Cole’s formulation suggests that we should focus on an account that unites the social and the individual outlook whereas Russell’s discussion implies the preeminence of the social. Vygotsky found the Marxist dialectical method of analysis to be satisfactory for this purpose and argued extensively in favor of its use in psychological and social studies. By contrast, neither Russell nor Cole treats methodological issues in his work.

Thus, we have valid reasons to believe that Russell’s presentation of activity theory contrasts unfavorably with the rigor of Vygotsky’s approach. It would seem, for example, that Russell’s suggestion of having a flexible unit of analysis might offer the benefit of universality because flexibility yields a wider research scope. However, we learn form Vygotsky that Russell’s argument for flexibility is unsustainable. According to Vygotsky, the chosen unit of analysis cannot submit to the whims and preferences of the researcher; on the contrary, the unit of analysis must always represent the nature of the object of study and reflect its essential properties. In this context, any attempt to redefine the boundaries of the object of research necessarily leads to the dissolution of the unit of analysis because it changes the makeup of internal relations represented by the constructs that were originally used to conceptualize it. In Marxist dialectical terms, one could speak of the substantive changes in the analytical representation of substantive internal relations designated by these constructs. The consequence is that Russell cannot arrive at a legitimate concept of learning on Vygotsky’s terms, through the idea of psychological tools mediating practical activities. Russell’s understanding of mediation is limited to material tools alone:

Tools (mediational means) refer to material objects in use by some individual or group to accomplish some action with some outcome – that is, tools-in-use, as I will sometimes refer to them, to remind us that a material thing is not a tool unless it has been put to some use, and the uses of a single material thing may
differ over time and across different actions and activity systems. (Russell, 1997, p. 511)

The distinction between psychological and material tools is essential in Vygotsky’s work, but is much less prominent in subsequent formulations of activity theory. Admittedly, Russell does not differentiate between these two theoretical positions, in fact regarding them as one unified paradigm. Yet, Leont’ev’s approach to analyzing human activities does highlight the role of language and other symbolic systems in mediating human practices, even if his choice of activity as the main unit of analysis makes it difficult to examine the consequences of symbolic mediation for individual psychological functioning. Vygotsky, however, deems that latter objective to be crucial to providing an adequate explanation of qualitative shifts in human mental processes. Thus, there is a big difference between Russell’s proposal to view activity theory as a descriptive ‘theoretical lens’ and trying to get at the essence of the phenomena that underlie it, which Vygotsky accomplishes with the help of the construct of mediation.

In all fairness, Russell may be an unwitting victim of the tradition to adhere to a theoretical system uncritically once such a system has been established as a scientific paradigm (Kuhn, 1970). Both the Marxist dialectical method and the traditional scientific method agree that all scientific knowledge is tentative. In fact, Popper (2002) argues that a theory cannot be considered scientific unless it can, in principle, be falsified or refuted. We have determined that activity theory cannot be falsified because the boundaries of activities under analysis cannot be ascertained definitively. Its methodological status will become even more precarious if we evaluate it against the principles that Vygotsky envisioned for choosing a unit of analysis in research. He maintained that a proper unit of analysis must be (1) dialectical in nature (i.e. it must refer to relations that exist in unity with one another but at the same time form oppositions which
may give rise to contradictions, driving development) and (2) irreducible (i.e. the unit of analysis cannot be reduced to a mechanical sum of its components). On the first count, the construct of activity can only become dialectical if we focus on the relations between individual psychological functions and observable performance on activity tasks. These two sets of phenomena form a cohesive whole because one presupposes the other, but at the same time they exist in complimentary opposition because a person’s psychological functions do not always match up to the tasks at hand. Russell’s characterization of the notion of activity does not include this consideration. On the second count, we also have legitimate doubts about Russell’s interpretation of the construct of activity because, as he argues, an activity system is not a finite unit of analysis but, in fact, can be re-abstracted into units of analysis with varying levels of generality at will: “The activity system is a flexible unit of analysis (theoretical lens), which allows us to train our gaze in different directions and different levels of ‘magnification’ to help us answer the questions that puzzle us” (Russell, 2002, p. 67). Essentially, Russell claims that activity theory endorses an “anything goes” approach that does not use clearly defined criteria for delineating the objects of research.

To Russell’s credit, he tries to draw a line between the notion of activity as a “container” of sorts that encapsulates behavior and activity understood as reciprocal relations between a person and his socio-cultural context. We remember that, in accordance with Vygotsky’s theory, mind (consciousness) is a function of the nervous system that consists in symbolically mediated reflection of reality given through collective practical activities. In other words, we have to affirm that psychological processes and practical material activities exist in a binding relationship in which one is impossible without the other. This is an axiom in Vygotsky’s framework. Yet Russell’s effort winds up one-sided when his metaphor of “weaving together” functional systems
is assigned to activity structures instead of psychological ones: “(L)earning is viewed as expanding involvement – social as well as intellectual – with some activity system over time, rather than the internalization of discrete information or skills” (Russell, 2002, p. 69). Here Russell compares apples and oranges in the sense that learning implies real people while activity denotes an abstract representation of relations among people. Thus we obtain “real people viewed in their expanding involvement (social and intellectual) with their own relations with each other.” Rephrased in this way, Russell’s assertion does not make much sense. Moreover, Russell assumes an opposition between social and intellectual involvement in learning activities. Unfortunately, in this part of Russell’s work we are faced with a loose usage of vital theoretical constructs that obscures the central premises of the theories on which he relies.

Russell’s construct of distributed learning is another point of disjuncture with the explanatory framework presupposed by Marxist dialectic. On the one hand, we have seen earlier that Russell defines learning as expanding involvement in relevant activities. So in this case we are looking at changes that take place on the individual level of theoretical abstraction. Vygotsky would, most likely, classify these changes as intrapsychological. On the other hand, Russell wishes to remain loyal to activity theory by noting that no interiorization of activity structures takes place on the level of psychological functions: “Fourth, the unit of analysis in Activity Theory is not the workings of an individual mind but the relations among the participants and their shared cultural tools. Thus, activity systems can be analyzed from multiple perspectives (of the various participants) and at many levels (from the individual to the broadest cultural levels)” (Russell, 1995, p. 57). Here we have a contradiction of premises on our hands: while learning implies individual mental development, its “distribution” across activities negates it. Otherwise stated, Russell’s explanatory framework (activity theory) is at odds with the relations designated by the
construct of learning that exist in the psychological sphere of concrete people because it presupposes a different level of generality.

Thus, we reach a point when we could recommend that Russell return to Vygotsky’s cultural-historical psychology. He could begin these retroactive steps by trying to unpack the construct of distributed learning with the aid of the Marxist dialectical method of analysis. Moving in this direction, Russell would have to identify concrete learning situations that implicate certain psychological functions through the use of relevant mediational tools. The construct of activity would supply the general context in which people approach concrete tasks and help to define their motivational background and goals. It follows, then, that Russell would have to look for units of analysis at the level of generality that is focused on individual people who are the proper subjects of learning. He ought to view activity merely as an abstraction that allows for delineating the range of relations that supply the raw material for interiorization into people’s psychological sphere. Russell should refrain from seeing activity as referring directly to objectified phenomena in the world. As a result, the degree of abstractness in Russell’s analysis would be reduced, returning from the level of learning activity to individual psychological performance in specific tasks that could be linked to corresponding psychological functions. We will limit our suggestions to this rough sketch for the time being because pursuing them in full requires a more extensive treatment of the Marxist dialectical method which comes in subsequent chapters. For the time being, we note that in our analysis of Russell’s work we have not discovered any references to dialectical methodology. We are making this point in passing, but it does have serious implications for the accuracy of Russell’s explanatory framework as a whole.
Russell runs into additional difficulty when he tries to account for motivational factors driving distributed learning activities, as required by Engeström’s model of an activity system (Engeström & Lektorski, 1990). On the one hand, activity theory does not provide Russell with criteria for setting up analytical boundaries of activity relations; on the other hand, his argument about the inherent flexibility of this framework prompts us to assume that Russell is prepared to exercise arbitrary discretion in this issue. Similarly, based on his understanding of activity theory, Russell tends to describe motivation in distributed learning in an arbitrary way as well because he abstracts the actions of his students onto the level of activity as an observer and he bases his conclusions on this point of view. The preceding discussion has led us to believe that Russell discusses motivation from the vantage point of the observer, abstracting learning relations onto the level of activity, as opposed to looking for the sources of motivation in the history of individual psychological development. We also notice that Russell attributes a motive to his students that has psychological significance to him, as a researcher, but may have little significance to them: “In our case, the motive is officially learning about mass media studies” (Russell, 2002, p. 69). Thus, Russell confuses the motivational background of activity perceived by the observer and the actual motivation of people who carry out the activity. We, thereby, conclude that the problem of determining activity boundaries exercises a negative influence on all aspects of activity-based analysis, namely motivation in Russell’s case.

Russell’s discussion of his communications course through the lens of the activity system framework appears to simply catalog its passage according to the rubrics found in Engeström’s activity system model: “Activity systems always have rules, broadly understood not only as formal and explicit but also as unwritten or tacit – what are often called norms, routines, habits, and values” (Russell, 2002, p. 71). We could again refer to Witte (2005) who cautioned against
the kind of tautological statements that explain things by mentioning the very same things or describing their superficial qualities. We know from Vygotsky that scientific inquiry ought to explain the nature and origin of the rules that govern human activity, and not merely state that such rules exist. Russell’s principal problem is inherited from the deficiencies of the explanatory framework that he adopts – activity theory and its recent elaboration by Engeström and others (1990 and 1999). To be exact, we refer here to the move away from the domain of individual psychological functions and their dimensions (phylogenetic and ontogenetic development, its stages, reversibility of development, role of mediational means) to higher levels of abstraction (activity) at which theoretical robustness of the whole theoretical system begins to decay. In Russell’s defense, we should say that he prioritizes the level of activity not by his own initiative, but because Leont’ev’s original position favors such an approach:

The analysis of activity and individual consciousness is, of course, derived from the existence of a real subject. Initially, however, that is, before and within this analysis, the subject appears only as some kind of abstraction, a psychologically “unfulfilled” whole. Only as a result of the steps taken by research does the subject disclose himself, concretely – psychologically, as a person. In addition, it develops that analysis of the individual consciousness in its turn must resort to the category of personality. (Leont’ev, 1978, p. 95)

As far as we can understand from this passage, Leont’ev is not sure what role the constructs of personal consciousness and personality should play in activity theory, nor is he prepared to explain the nature of their connection to activity, which Vygotsky achieves with the construct of symbolic mediation. Vygotsky constantly appeals to the dialectical method in order to maintain a holistic explanation that makes only the essential qualitative distinctions that illuminate the nature of the phenomena at hand. Leont’ev, on the contrary, does not adhere to the dialectical method of analysis, so he has no way to specify the internal structure of activity or its relation to other activities with methodologically justified criteria in mind:

Investigation of activity requires an analysis specifically of its internal systemic connections. Otherwise we will not be in a position to decide even the simplest
problems – such as making a judgment about whether or not we have an action or an operation in a given case. In this respect activity represents a process that is characterized by continuously proceeding transformations. Activity may lose the motive that elicited it, whereupon it is converted into an action realizing perhaps an entirely different relation to the world, a different activity; conversely, an action may turn into an independent stimulating force and may become a separate activity; finally, an action may be transformed into a means of achieving a goal, into an operation capable of realizing various actions. (Leont'ev, 1978, p. 67)

As Leont’ev progresses through this argument, we notice how activity, after it is introduced as an abstraction of observed social relations, gradually acquires a life of its own by becoming a reified, an almost personified entity. We are also wondering how Leont’ev proposes to distinguish between the uses of activity as an analytical perspective and activity as the object of analysis. It is apparent that in Leont’ev’s arguments above such a distinction is unavailable. Leont’ev’s position struggles to provide a comprehensive account of internal and external relations denoted by the constructs of activity, individual consciousness, individual agency, and personality. When Russell accepts the premises of activity theory uncritically, he inherits all its deficiencies.

Russell’s analysis of three case studies exemplifies some of the typical difficulties that arise when one mixes Vygotsky’s ideas with notions borrowed from activity theory without considering the grounds for their compatibility first. Russell initiates his discussion of activity-theoretical methodology on Marxist terms by referring to the constant motion of human activity: “As we have noticed, activity systems we human beings make are constantly subject to change” (Russell, 2002, p. 71). Russell’s next argument evokes the construct of contradiction which is used in the Marxist dialectical method of analysis to explain the sources of development: “Contradictions can emerge between and among any of the elements of the activity system” (Russell, 2002, p. 71). Without mentioning Marxist dialectic, however, Russell identifies two types of contradictions that caused the most difficulty in his distance learning projects. The first type had to do with a
clash between the “mediating tools” – the computer software used in the course – and the division of labor, i.e. the need for specialist help in modifying the software. The second kind of contradiction obtained between the motives of the teachers and the students’ motivation. Russell intimates that essentially these contradictions put the project in disarray, but insists that these contradictions were productive because they created zones of proximal development, i.e. learning situations in which both the teachers could assist the students, thus expanding their psychological capacity beyond the scope of activities that they could carry out on their own. Russell’s analysis suffers from two problems. First, his study abstracts learning that took place in his courses onto the level of activity. As we noted earlier, such an abstraction always involves the point of view of the observer because the construct of activity does not provide clear-cut conceptual boundaries. Russell, however, does not seem to understand that in his discussion activity is represented as his own mental model and, as such, is structurally different from the way the activity looks and feels for his students. There seems to be no way in which Russell could attend to his the psychological processes of his subjects because he has already declared the focus on the individual psychological functions to be immaterial. Vygotsky would strongly object to such reductionism and suggest that Russell is reifying the construct of activity. Second, Russell’s own teaching experience suggests that the methodology he is using may be flawed. For example, Russell’s activity analysis states that computers change the manner in which human activity is mediated, but at the same time Russell is puzzled by the cases in which “what was expected to be a mediational tool, the computer interface, became instead an object – although we were able to work that out in time and focus on the desired object/motive” (Russell, 2002, p. 70). Computers are mediating activities only in their representations constructed by the observer, but for a person working on the computer, mastering the complex learning software is a task in its own right. Vygotsky would say that the student’s psychological functions include computers as the objects
of their activities, and not just as mediational means. We can only reiterate that a solution to Russell’s conundrum should be methodological. His analysis requires a change in the level of generality that would permit him to abstract such units of analysis that would give him access to the subject-centered meaning of the activities in question. For instance, Russell could explore the possibility of using Witte’s (2005) suggestion to consider the construct of task for this role, but he should keep in mind that what matters most is the subjective meaning that the students derive from it. According to Vygotsky, it is this meaning and its psychological significance that constitutes the proper object of study, while observation of material activities provides a path to investigating it indirectly. Ignoring individual psychological processes and focusing solely on activity also gives rise to a teaching philosophy which represents learning as something that “emerges” from the thick of activity, with only minimal involvement on the part of the teacher. In other words, if we say that psychological development is limited to one’s expanding participation in various activities, then our position will culminate in a “laissez faire” approach to pedagogy. Just as market fundamentalists believe that the invisible hand of the market inevitably brings prosperity to everyone, we will believe that merely taking part in various activities will bring about learning. Along with Witte (2005), we have to affirm that if we think about practical matters, such as educational practice, through the fuzzy notion of activity, we will end up with a measure of disorganization in our tasks because we will fail to specify them sufficiently.

Russell’s point of disjuncture with Vygotsky’s cultural-historical theory is his reading of the construct of tool. He defines it as follows: “Tools are understood as anything that mediates subjects’ action upon objects” (Russell, 2002, p. 70). This definition runs contrary to Vygotsky’s distinction between psychological and material tools:
The most essential feature distinguishing the psychological tool from the technical one is that it is meant to act upon mind and behavior, whereas the technical tool, which is also inserted as a middle term between the activity of man and the external object, is meant to cause changes in the object itself. The psychological tool changes nothing in the object. It is a means of influencing the object. There, in the instrumental act we see activity toward oneself, not toward the object. (Vygotsky, 1987, vol. 3, p. 87)

We see a parallel here between Russell’s interpretation of the construct of activity and his take on the construct of tool. He sees both as material entities, referring only to the outward manifestations of activity processes and tool usage and disregarding the inner psychological mechanisms of people whose actions constitute activities and who employ tools in their course. Of course, we cannot characterize it as dialectical in Vygotsky’s sense.

Another misinterpretation of the constructs of mediation and mediational tools appears in Russell (1997) where we find a curious blending of Leont’ev’s activity theory and Vygotsky’s cultural-historical psychology, with added strains of Bakhtin’s (1994) dialogism and genre theory:

A recent version of Vygotskian cultural-historical activity theory offers a powerful analysis of the relation between formal schooling and other social practices. Let me first outline that theory before connecting it with Bazerman’s (1994a)1 genre systems theory to suggest how we can trace the ways writing links school and society.

Like dialogism, activity theory does not posit some underlying conceptual scheme or deep structure for explaining behavior (including writing), but it does look at the reciprocal mediation of behavior in mutual exchange and negotiation. Both dialogism and activity theory move from the social to the individual in their analyses. The object of analysis is neither texts nor minds nor conceptual scheme per se but is in between – the social intercourse.

The version of activity theory I am using, developed by Cole and Engeström (1993), avoids metaphors of context and contents or conversational dialog, substituting instead metaphors of interlocking, dynamic systems or networks. These systems embrace both human agents and their material tools, including writing and speaking. (Russell, 1997, p. 509)

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1 See Bazerman (1995) in the present work.
Here Russell argues that mediation is supported only by material tools that include speech and writing; he is not aware of Vygotsky’s distinction between psychological and material tools which follows from the Marxist dialectical method of analysis. On the other hand, he also maintains that activity systems presume a connection between acting people and the material tools that they use. Earlier, the same connection is made when Russell mentions the analytical movement from the social to the individual. His notion of the social intercourse appears to be the unit of analysis that refers to the interaction between the social and the individual aspects of psychological functioning. To address this problem, Russell makes an attempt to broaden the notion of genre to include human actors and their material contexts, but succeeds only in equating it to the construct of activity (purposeful interaction):

First, we must go beyond the conventional notion of genre as a set of formally definable text features that certain texts have in common across various contexts, however defined, and consider genre in relation to social action and social motives. In the view I am developing, genres can be defined, following Miller (1984), as typified ways of purposefully interacting in and among some activity system(s). (Russell, 1997, p. 513)

Again, we are wondering what mechanism could underlie “the ways of purposefully interacting in and among some activity system(s)” since Russell wishes to exclude the consideration of the mind from his analysis, opting for the social intercourse instead. He does, however, provide an explanation of the way in which genres enter one’s psyche in the form of the construct of appropriation: “The system version of activity theory analyzes change in terms of appropriation, a person or dyad or collective picking up some tool-in-use from others” (Russell, 1997, p. 516). We can see that, in essence, Russell’s definition of appropriation is limited to learning the use of material tools. In the absence of the Vygotskian distinction between psychological and material tools, Russell cannot explain how tool usage actually happens in the case of symbolic mediation (speech and writing) because, according to Vygotsky, this process is qualitatively different from
material tool use. Russell’s concept of appropriation ought to be based on a broad understanding of the construct of mediation that would subsume psychological and material tools without erasing the distinction between them.

The absence of clear-cut distinction between activity as the method of analysis and activity as the object of study causes Russell to lose sight of the perspective in which he operates during his analysis. When he records his teaching activity and the learning activity of his students on an activity diagram (activity triangle), his label for “Subjects” seems to represent both the students and the professors. This representation immediately puts the other elements of the theoretical model at cross purposes because, although students and teachers are members of the same activity system, they realize different activity structures, approach the goals of their activity differently, and are guided by different motives. At the very least, we need a much more complex geometrical figure than a simple activity triangle to denote all possible sets of relations. But even if we attempt to salvage Russell’s explanation in this manner, it will not override the methodological fuzziness of the construct of activity. Symptomatically, Russell notes that “motivation is particularly difficult to address in distributed learning environments…” (2002, p. 80). We would add that it is impossible to address because the individuals that experience it are excluded from the analysis and overshadowed by the notion of activity. We come to the conclusion that Russell’s analysis is reductive to exactly the same extent as it is the case for Leont’ev’s activity theory.

The versions of activity theory in other works by Russell are also open to criticism. In "Activity Theory and its Implications for Writing Instruction" (1995) Russell continues to argue in favor of choosing the construct of activity system as the principal unit of analysis. His definition of
activity mentions “goal-directed, historically-situated, cooperative human interactions, such as a child's attempt to reach an out-of-reach toy, a job interview, a "date," a social club, a classroom, a discipline, a profession, an institution, a political movement, and so on” (Russell, 1995, p. 54). In this definition we witness how, instead of giving a dynamic developmental explanation, Russell enters a conceptual space that takes only static snapshots of reality. From this standpoint, there might be little difference between children “going on a date” during play and adults doing the same thing in reality. Russell’s language is typical of someone who operates within a mechanistic framework based on the relations of pure causality. Thus he speaks about functional systems consisting of subjects acting upon objects with some tools and with objectives in mind which relate to the objects. The activity triangle that Russell used earlier to illustrate his analysis of teaching activity is, in fact, Vygotsky’s mediational triangle reconfigured to serve as a model for an activity system. However, we find no explanation of Russell’s reasons for this analytical move or any mention of the possible implications that such a modification might have to the representation of the processes which Vygotsky wanted to describe with its help. Besides, we observe a recurring pattern of mixing up material and psychological mediational tools in Russell’s reading of the construct of mediation (“machines, writing, speaking, gesture, architecture, music, etc” [Russell, 1995, p. 54]). We also note from the range of Russell’s references to other scholarship (e.g. Engeström, 1990; Smagorinsky & Coppock, 1994) that this misconception concerning Vygotsky’s construct of mediational tools has some currency in other scholarship. In some cases, Russell’s epistemological difficulties are compounded by logical contradictions between various assertions in his argument. For instance, at one point in his work Russell argues that when a child reaches for a toy, he can carry out this activity through a variety of mediational means, ranging from dragging a chair to enlisting his father’s advice. Elsewhere
Russell claims that activity always remains “invariant,” which presumably implies that mediational means are not varied.

Of course, up to this point we have raised most of our objections on the level of individual theoretical constructs. More importantly, however, Russell’s appeal to the principle of dialectical development (or analysis?) in his discussion of activity systems does not reflect an awareness as to what this principle entails. By this we mean that (1) Marxist dialectic constitutes a more general framework with respect to cultural-historical theory of psychology and activity theory, or any theory for that matter and (2) refers both to the method of scientific analysis and the natural state of the material world. We do not find such an understanding of dialectic in any of Russell’s work. Unfortunately, in Russell’s text one often comes across assertions, such as “Activity systems are inherently social” (Russell, 1995, p. 56), which are simply tautological. Russell’s definition of activity systems already presupposes human subjects as an inherent component. To say that they are social adds nothing to the original designation. We have already suggested that Russell’s theoretical predicaments are a legacy of Leont’ev’s arguments that tend to reify the construct of activity: “If we removed human activity from the system of social relationships and social life, if would not exist and would have no structure” (Leont’ev, 1981, p. 57). Evidently, Leont’ev also views human activity as an entity that can be introduced into or withheld from people’s life. We do not see how this is possible since activity is an abstraction that the researcher makes when observing human actions. Furthermore, Leont’ev’s emphasis on the analysis of material human activity causes Russell to shift his interpretations of other theoretical constructs away from individual psychology into abstractions of interpersonal relations. We see this, for example, in Russell’s treatment of the notion of consciousness: “Thus, consciousness is not individual but intersubjective, networks of systems mediated by our tools of interaction” (Russell,
1995, p. 57). It is one thing if, along with Vygotsky, we argue for social roots of consciousness, but it is quite another issue if we somehow imagine that consciousness has an existence outside human bodies. According to Vygotsky, consciousness manifests itself in people’s actions, but it is not contained in activity. Russell puts himself in a difficult position because he now has to account for two types of consciousness – individual and collective – and then has to address the connection between them. Of course, Russell could deny that individual consciousness is a useful concept, but it will be hard to dispense with it altogether because, after all, activity is carried out by real people. The other option that Russell could exploit is to argue that consciousness extends from individuals into their social environment. If this is the case, Russell would have to explain the mechanism for this extension. Activity theory is not suited for this task because its unit of analysis does not refer to individual consciousness. We are left with the only alternative to resort to dialectical analysis which would include individual psychological functions (the content of consciousness) and social relations in the same unit of analysis. Yet, Russell does mention that activity systems are dialectical. Therefore, his description of activity systems also refers to his understanding of dialectics which he sees as a process of appropriating various tools and goals from the environment which are necessary in a particular activity: “The participants in an activity system appropriate (borrow and transform) the tools and object(ive)s and points of view of others, leading to changes in the means of pursuing the object(ive) of the activity system” (Russell, 1995, p. 58). We do not find any indication of how exactly these tools, objects, or objectives are appropriated and what happens once the appropriation is complete. What we find instead is an eclectic conglomeration of terms which does not clarify any of the relations underlying them.

We do not mean to argue, however, that the construct of activity is entirely worthless. For example, as Russell, we could draw on it to discuss the contexts in which written artifacts are
used. In this sense, the construct of activity will be abstracted as relations between texts and their users. Russell proposes exactly this configuration of analysis, but once again we observe him intermingling concepts from genre studies with notions from activity theory:

The object(ive) of GWSI is most often described as teaching students "to write" or to "improve their writing." If writing were an autonomous skill, generalizable to all activity systems that use writing, improving writing in general would be a clear object(ive) of an activity system. But writing does not exist apart from its uses, for it is a tool for accomplishing object(ive)s beyond itself. The tool is continually transformed by its use into myriad and always-changing genres. Every text is some genre, to paraphrase Bakhtin (1986), part of some activity system(s). Learning to write means learning to write in the ways (genres) those in an activity system write (though one must remember that this is complicated by the fact that activity systems and their tools—including genres—are always in dialectical change). (Russell, 1995, p. 58)

It is hard to argue against Russell’s position here since intuitively it makes good sense. For this kind of analysis the level of abstraction allowed for by the construct of activity and its systems is sufficient and appropriate. Indeed, it has been shown [e.g. Dias et al (1999)] that writing that takes place in school settings is in many ways different from writing activities in the workplace. However, the part of Russell’s argument that implicates individual writing skills appears to be harder to sustain because activity theory does not supply a theoretical scheme for describing the transition from the level of activity to the level of individual skills. In this connection, we continue to mention Vygotsky’s construct of mediation as a dialectically appropriate way of analyzing the connection between individual psychology and material activities that does not privilege one side of the analysis at the expense of the other. Unfortunately, Russell’s analysis does not include references to the dialectical approach that Vygotsky makes so frequently. We could probably even go as far as to say that his treatment of the problem of activity is anti-dialectical. Russell’s discussion does not include the idea that activities and individual psychological functions of their participants may represent different aspects of the same unified phenomenon that could be examined dialectically.
The reification of the construct of activity and reducing it to its material side persists throughout the rest of Russell’s discussion when he compares skill transference in ball games and between writing genres. He admits of a certain degree of compatibility in motor skills of hand-eye coordination in such games as soccer and volleyball but maintains that a direct transfer of skills between them will be disastrous (Russell, 1995, p. 59). However, Russell remains adamant that no general skill of “ball handling” suitable for all ball games exists. He is convinced that psychological skills or functions that arise in different activities are also disparate. We are generally sympathetic to this comparison, but would like to point out that, as shown by Vygotsky, mental functions involved in writing are more complex and qualitatively different from motor functions exhibited in ball games. We already know that this additional complexity arises mainly from the fact that they are mediated by psychological tools, such as language. The construct of activity does not provide Russell with the means of accounting for symbolic mediation and the layers of interdependencies that it creates.

We now have to decide whether our criticism of Russell’s uses of the construct of activity damages it irreversibly. On the one hand, we have seen in Witte (2005) that the construct of activity is poorly delineated. Like Witte, we have so far been unable to discover resources within activity theory that would resolve this problem adequately. It seems apparent that a solution has to be found outside the activity theory approach. One way to approach the issues, as we have suggested, is returning to the premises of Vygotsky’s cultural-historical theory that presupposes a unity of social relations and individual psychological functions. However, switching focus to Vygotsky’s framework will not be enough without also adopting Marxist dialectic as a methodology. Tentatively, we conclude that if we apply the dialectical method to the construct of
activity, we can hope to revive some of its explanatory potential. Marxist dialectics will urge us to pay close attention to the underlying relations denoted by this construct, which will then lead us to abstracting their different dimensions in the psychological and social planes and then analyzing them in their unity. We cannot say more about the exact procedure of such analysis until we examine the Marxist dialectical method in sufficient detail later on. For now, we will limit ourselves to the assertion that a proper activity analysis should obey the general premise of a dialectical connection between the psychological and the social aspects of activities.

In the end, the dialectical approach should permit us to manipulate the construct of activity in a way that would uphold its explanatory consistency. This is to say that we should avoid mixing the activity approach with other explanatory frameworks, be it Vygotsky’s theory or genre analysis, unless we account for the conceptual grounds for such modifications. Our examination of Russell’s discussion has shown that it is not immune from this imprecision. The analysis of writing in college and outside of it that Russell undertakes is rather difficult to conduct from the standpoint of activity theory. The activity that he is dealing with in both cases is the same: writing. We do not see how the necessary distinctions can be made within the construct of activity to differentiate between writing activities in academic and non-academic settings. Clearly, Russell needs an analytical construct that would be concrete enough to make such distinctions and at the same time would incorporate writing as its essential internal relation. Again we turn our attention to Witte’s (2005) construct of task which, on the one hand, gives access to the individual psychological functioning and could shed some light on the configurations of skills operating throughout the activity and, on the other hand, has enough generality to incorporate an account of writing activity on the interpersonal level, complete with relevant goals and motivations. We should caution ourselves not to treat tasks as reified entities
that are separate from the people who perform them. We should also keep in mind that analyzing the tasks themselves is not a goal in its own right; rather we should be analyzing tasks for evidence of the corresponding psychological functions and their development.

Spinuzzi (2003) extends Russell’s application of activity theory within the genre approach. Specifically, he elaborates on the correspondence between these two theoretical positions. Spinuzzi notes that the construct of genre has been defined in variety of ways, for example as tools or artifacts used for a particular purpose or as a historical practice:

Like artifacts, genres are sometimes described as tools-in-use (Russell 1997) and are usually studied in a mediatory role. (Spinuzzi, 2003, p. 40)

Genre, then, is more than a concrete psychological theory or a material embodiment of recurrent activity. Genres are not discrete artifacts, but traditions of producing, using, and interpreting artifacts, traditions that make their way into the artifact as a "form-shaping ideology" (Morson and Emerson 1990, 282–284). That is, they emerge from cultural-historical activity and represent, reflect, stabilize, and help constitute that activity (G. Smart 2002). In terms of cognition, they represent the "thinking out" of solutions just as artifacts do (see Bakhtin 1984, 270). But they also represent the development and stabilization of worldviews, including the values, ethics, and other humanistic concerns implied in them. (Spinuzzi, 2003, p. 41)

Spinuzzi specifies three levels in the construct of genre that are broadly equivalent to the three levels of activity postulated in activity theory. The global level of activity as a culturally and historically determined practice corresponds to the interpretation of genre as “social memory that its practitioners accept without their explicit recognition that they are doing so” (p. 43). The level of actions that are consciously controlled to achieve certain life goals is matched with the notion of genre as “tool-in-use” that was mentioned above. Finally, the level of operations that represent the elements of actions performed automatically, without conscious control is cross-referenced with the construct of genre that is understood as “a set of operationalized actions that, once
learned, serve as coherent sets of operations that can be unconsciously drawn on to perform familiar, repeated tasks” (Spinuzzi, 2003, p. 46).

Spinuzzi appears to increase the degree of conceptual equivalence between the construct of activity, along with its constituent notions, and the construct of genre. His argument essentially equates genre with the construct of activity and its instantiations because the cited interpretations of the notion of genre correlate with its components. Therefore, the conceptual fuzziness of the construct of activity limits the construct of genre, thus validating the criticisms leveled against Russell’s position for Spinuzzi’s work. Elsewhere Spinuzzi presents genre as an element that “supports” activities: “Tracing genres and their destabilizations across the levels of scope can lead us to examine how genres support activities, how they mediate these activities and each other, and how they coconstitute their activities” (Spinuzzi, 2003, p. 50). Needless to say, such conceptual imprecision detracts from the explanatory force of Spinuzzi’s argument. At the same time, Spinuzzi is absolutely correct in identifying internal contradictions as the motive force behind genre changes and shifts within the structure and content of human activities. According to him, the reproduction of activities and their systems is driven by contradictions, “which are tensions or imbalances in the activity system” (Spinuzzi, 2003, p. 67). Spinuzzi’s attention to contradictions is reminiscent of Marxist dialectics even though he does not mention the term explicitly. However, the locus of these contradictions within activities and the mechanism of their unfolding remains largely unexplored in his work, precisely because Spinuzzi does not elaborate on the specifics of the dialectical method. Still, his identification of the principal contradiction at the chosen level of abstraction (activity and its systems) is accurate:

One insight reaffirmed in this study is that a given activity never stands still. Activities change. And as we will see, contradictions—tensions, imbalances, destabilizations—often appear among elements of an activity system. Activity systems are complex and only temporarily stable: parts of the activity system
change continually, and not always in the same ways. Contradictions within these changing activities are typically dealt with first by the sorts of local innovations that I discussed in chapter 1, and only later by more official and centralized responses. Official responses (that is, centripetal reorganizations) are necessary for preserving the system—otherwise it would fragment as individual workers did their own thing—but unofficial innovations are necessary because one size does not fit all. This account tells the story of a cycle in which contradictions are exacerbated, innovations spring up to deal with their effects, then a centripetal reorganization consolidates and standardizes those innovations so that the activity can continue. Any given contradiction is not eliminated in most cases, just abated—and changes in the activity can exacerbate contradictions in various ways, starting the cycle of innovation all over again. (Spinuzzi, 2003, p. 62)

While Spinuzzi properly identifies the abovementioned contradiction that forms the centerpiece of his study, he does not subject it to a dialectical analysis that would examine the parts of activities and their systems, undergoing developmental changes. We have established that the Marxist dialectical approach to psychological development is premised on the social and symbolic nature of consciousness. This requires us to account for that the role of psychological mediational tools, such as language, that define the nature of psychological processes in human activities. For Russell, whose argument includes the constructs of writing and consciousness, an account of symbolic mediation is, therefore, indispensable, but we do not find one in his work. Nor do we find such an account in Spinuzzi. Leont’ev’s activity approach does not aid these authors in this respect either because the construct of activity is too general and indeterminate to allow for attention to mediational tools. The lesson we learn from Russell and Spinuzzi is that theoretical assumptions inevitably lead to practical material consequences. Specifically, Russell’s uses of activity theory do not include a discussion of mediational tools, so from his arguments alone, we are unable to determine whether writing pedagogy requires studying formal language rules or the knowledge of these rules can emerge by itself from correctly organized learning activities. Similarly, Russell’s inattention to Marxist dialectic prevents him from discerning the moments when his approach to activity becomes one-sided and reified.
Zebroski: mediation as a conceptual foundation for overcoming the mind-body divide in the humanities

Zebroski (1994) is among those who pioneered Vygotsky’s cultural-historical theory in American writing studies. However, the beginnings of his engagement with Vygotsky and Luria predate this volume by a decade. In 1983 Zebroski wrote a doctoral dissertation in which he explored the general premises of Vygotsky’s paradigm and its possible import for writing studies and pedagogy. The dissertation is not as much a theoretical treatise as an overview of the theory because at the time only those in anthropology and education could acknowledge familiarity with the subject. Accordingly, Zebroski had to pack a lot of material into the restricted textual real estate of the dissertation genre, but the issues that he raised have not lost their urgency:

So while the diversity of contemporary composition research in one sense reflects a healthy reopening of old debates and a critical questioning of basic assumptions about writing and the writing process, it also reflects a deeper, shared atheoretical bias. Too many composition researchers seem to believe that if researchers simply gather enough information about writing in a “scientific” and unbiased way, they can derive from this data a theory of writing. … In fact, Sommers argues that just the opposite is the case. One needs a clearly thought out, fully elaborated theory of language and writing. (Zebroski, 1983, p. 5)

Zebroski recognizes Vygotsky’s scholarship as a potential source of overarching theoretical ideas, but argues that its methodological and epistemological roots are rarely given proper attention:

The scrutiny of assumptions and systematic elaboration of a unified theory of language and writing is not evident in many of the recent references in composition research literature to the work of Lev Vygotsky. Vygotsky’s work first became widely available in the U.S. through the English translation of Thought and Language in 1962. Since then, but especially in the last decade, researchers in composition have increasingly referred to Vygotsky’s insights. Yet these references which are generally taken from Vygotsky’s well-known remarks concerning the relations between speech, inner speech, and writing, rarely indicate much of an in-depth understanding of the context of the work out of which those observations come. They also do not often add much new to an
understanding of the composition process or the history of writing development. (Zebroski, 1983, p. 5)

Zebroski notes that misunderstandings concerning Vygotsky’s ideas often begin with associating his works with those of Piaget, and more broadly with cognitive psychology. In this case, Zebroski’s commentary focuses on the epistemological foundation of Vygotsky’s theory and the way in which its foundation differs from the central premise of cognitive psychology – the conception of autonomous individual whose development follows predetermined stages that are arranged in a sequence:

The point is that a more detailed study of the works of the Vygotskian school indicate that some of the very conclusions attributed to cognitive psychology, and, thus by implication, to Vygotsky, contradict actual statements by Vygotsky and his colleagues. For example, Barritt and Kroll follow up their discussion of the apparent “common ground” of Piaget and Vygotsky with a short review of the work of Flavell. Yet a Vygotskian is likely to find unacceptable many of the assumptions of the work attributed to him. Flavell’s conception (as stated in Barritt & Kroll) of a developmental sequence through which children “gradually” pass, itself a contradiction of Vygotsky’s view of development (Vygotsky, 1978, p. 73), from a more egocentric to a less egocentric role is in some respects common sense, yet it also heavily relies on the assumption children become more “socialized” and thus role take better (Barritt & Kroll, 1978, p. 55). Better role taking leads supposedly to more adaptation of message to an audience and thus leads to more effective communication. In contrast to this stands Vygotsky’s contention that “The earliest speech of the child is therefore essentially social” (Vygotsky, 1962, p. 19). (Zebroski, 1983, p. 8)

Zebroski mentions that Leont’ev, too, warns against theoretical eclecticism which, even though popular with American scholars, has never led to scientific success (Leont’ev, 1978, 46). The strongest part of his argument concerns the attempts of use Vygotsky’s cultural-historical psychology in conjunction with other theoretical positions:

Eclecticism is atheoretical since it argues that all theoretical viewpoints and finding are of value since truth resides to some extent in even the most different of philosophies. If it is argued that two approaches coming from completely opposite and contradictory premises and sets of assumptions are equally valid, are equally acceptable in some respect, then one can also argue that they can be just as equally invalid. If they are equally invalid, then theory is simply the
It is fairly clear from the aforementioned observations that Zebroski is squarely aligned with Vygotsky’s position, regarding the methodological aspects of research. However, in order to make the next constructive step, he needs to elaborate on the philosophical foundations, underlying Vygotsky’s theoretical position and show how these lines of investigation connect to activity theory developed by Leont’ev. This is precisely where Zebroski’s step forward becomes a misstep since he cannot resist the temptation to represent Vygotsky’s school of thought and activity theory as successive historical stages in the development of Soviet psychology. The conflation of the two paradigms is obvious when Zebroski discusses its philosophical foundation – Marxist dialectics. Just like Russell, he conscripts Vygotsky’s discussion of mediational tools when discussing the indirect way in which people relate to their life circumstances in the form of various activities:

Activity is not only characterized by this specific structure which is in constant flux, constant folding and unfolding, continuous abbreviation and elaboration. It is always also a mediated process. For behaviorists the link between stimulus and response, between human beings and their world, is a direct one. Vygotsky argues that this is not true and that it is exactly this mediated nature of human activity that separates it from animal behavior. (Vygotsky, 1978) (Zebroski, 1983, p. 93)

Still, we should not forget that the core of Vygotsky’s project was aimed at studying the nature of higher mental functions and consciousness. He sought to demonstrate how individual psychology is possible through social interaction and establish inherent parallelism in this development, while giving the ontological priority to the social environment. Leont’ev, on the contrary, placed the locus of his analysis in the midst of socio-material connections formed by people in a community. Zebroski’s dissertation allows for fuzzy references that blend Vygotsky’s ideas with activity
theory. For example, consider the following passage: “One of Vygotsky’s unique contributions to psychology is his conception of development. For Vygotsky, development is the “movement” of activity” (Zebroski, 1983, p. 95). For one, Vygotsky draws the construct of development from Marxist dialectic. In essence, his project is to concretize the most general laws of nature posited by Marx and Engels for the specific case of psychological growth. Also, while Vygotsky might agree that observed psychological movement can be abstracted as activity, his theoretical interest is directed toward the genetic mechanisms of this movement that ought to be abstracted on the mental plane of the individual. Therefore, in keeping with Vygotsky’s theoretical emphasis, the movement of activity should be taken as interplay of psychological functions which, according to him, is an indirect path of study of these functions. However, to study them successfully, one would need to isolate the aspects of activity that point toward the carrying out of specific psychological functions or reflect their insufficient development. In other words, to understand Vygotsky’s conception of development, one would need a correct interpretation of his application of Marxist dialectic to the problem of psychological growth, and the way it differs from the dialectical approach assumed in activity theory. Vygotsky places the dialectic of psychological development within the realm of individual psyche, whereas Leont’ev wants to find evidence for the unfolding of dialectical laws in the human collective and practical activities. These are epistemologically different theoretical stances even though they share a common point of origin: the Marxist worldview. Zebroski (1983) does not recognize this difference.

Zebroski (1994) presents a much more mature view of Vygotsky theory and its actual influence on the educational and research practice in the U.S. He begins with an observation that many theoretical constructs used while studying various aspects of social life have acquired a thing-like quality:
While the eighties saw the increasing popularity of a cluster of concepts associated with “discourse community,” “academic discourse,” “collaborative learning and writing,” and “social constructionism,” in the attempt to offer an alternative to process theory, the discourse community theorists have reified the new conceptual framework. “Discourse community” too often is used to designate a monolithic, monologic context outside of and prior to the writer, the text, and history. Discourse communities are viewed as freestanding, independent groups, unaffected (or at least little affected) by ruling social structures, neither capitulating nor resisting economic and political forces, having no histories, existing in large cultures that have no histories. (Zebroski, 1994, pp. 272-273)

Zebroski’s diagnosis regarding the cause of this theoretical affliction is as insightful as it is obvious: the discipline has remained firmly within the grasp of the age-old Cartesian dichotomy of the individual and the social treated as two separate worlds. One might even argue by extension that the normalcy of the Western scientific project in the humanities is wholly predicated on this divide. Zebroski’s review of works by Charles Bazerman cites him as one of the most vocal advocates of theoretical reform in writing studies that would help to rid the disciplines of fossilized constructs. However, the way out of the dualistic impasse is a bit unorthodox for a Vygotsky supporter: with Bazerman’s backing, Zebroski is calling for a new theory of language. In his opinion, trying to “appropriate the existing language theory of the Vygotskian school leads to complications that cannot be resolved without a theoretical graft from the outside (Zebroski, 1994, p. 274). Zebroski nominates Yuri Lotman’s sign theory to fill the suspected lacuna in Vygotsky’s account of language. The choice is made not on conceptual grounds, but on the fact that Lotman and Vygotsky had similar backgrounds, both coming from literary criticism. Indeed, Vygotsky’s first psychological investigation is titled The Psychology of Art and can be seen as his first systematic foray into psychology (Vygotsky, 1971). However, one will not find a complete theory of language in this work, or in other writings by Vygotsky for that matter. Zebroski’s decision to turn elsewhere in his search of a comprehensive theory of language is motivated by the fact that constructing, or reconstructing, one envisioned by Vygotsky is a
time-consuming enterprise. Because of this, it is the most obvious choice to abandon it in favor of a surrogate theory that shows signs of compatibility with Vygotsky’s framework. The most common theoretical donor in such cases is Bakhtin, but his idealistic philosophical orientation puts his ideas on textuality in opposition to Vygotsky’s theory. As Zebroski himself notes, “Bakhtin was always more a Kantian idealist than a Marxian materialist” (1994, p. 277).

Zebroski’s argument also features an aside that explores Vygotsky’s Jewish background. He claims that “because Vygotsky was a minority person, his language, his worldview, his categories for thinking about the world, the questions that intrigued him, necessarily differed from the reigning order” (Zebroski, 1994, p. 279). This reading of Vygotsky’s otherness is a bit strange because his work proclaims Marxism, the official ideology of the time in Soviet Russia, as his flagship methodology. We are also not convinced that this line in Zebroski’s argument is entirely necessary because Vygotsky’s primary concern always was to develop a thoroughly scientific approach without possible ideological overtones:

We see, therefore, that scientific research is at the same time a study of the fact and of the methods used to know this fact. In other words, methodological work is done in science itself insofar as this science moves forward and reflects upon its results. The choice of a word is already a methodological process. That methodology and experiment are worked out simultaneously can be seen with particular ease in the case of Pavlov. Thus, science is philosophical down to its ultimate elements, to its words. It is permeated, so to speak, by methodology. This coincides with the Marxist view of philosophy as “the science of sciences,” a synthesis that penetrates science. In this sense Engels remarked that “natural scientists may say what they want, but they are ruled by philosophy. . . . Not until natural science and the science of history have absorbed dialectics will all the philosophical fuss . . . become superfluous and disappear in the positive science” (Vygotsky, 1987, vol. 3, p. 291)

Vygotsky, therefore, is committed to avoiding the “otherness” charge by proclaiming his allegiance to the scientific method – the approach to analysis that constantly examines and reexamines its own premises and assumptions. To Vygotsky, science is above cultural, social, and
economic divisions; it is wedded to the ideal of gaining knowledge about the world and understanding the way in which humans construct such knowledge.

Elsewhere Zebroski hypothesizes that Vygotsky’s treatment of the phenomenon of inner speech was inspired by the Jewish dialects of Russian of Western Russia and Ukraine characterized by witty banter and extensive use of hints, and quick repartees: “One wonders if Vygotsky’s interest in inner speech didn’t reflect his own experience with a kind of language very unlike the elaborated academic discourse of the Soviet intelligentsia” (Zebroski, 1994, p. 279). Yet, Vygotsky has a different consideration in mind when he elaborates his position concerning inner speech:

*Inner speech is an entirely unique, independent, and distinctive speech function… it is completely different from external speech. This justifies the view that inner speech is an internal plane of verbal thinking which mediates the dynamic relationship between thought and word. … there is no question that the movement from inner to external speech is incomparable to the direct translation of one language to another. The movement from inner to external speech is not a simple unification of silent speech with sound, a simple vocalization of inner speech. This movement requires a complete restructuring of speech. It requires a transformation from one distinctive and unique syntax to another, a transformation of the sense and sound structure of inner speech into the structural forms of external speech. External speech is not inner speech plus sound any more than inner speech is external speech minus sound. The transition from inner to external speech is complex and dynamic. (Vygotsky, 1987, vol. 1, pp. 279-280)*

Furthermore, the complexity of the transitions between inner and external speech is underscored by the idea that “what is contained simultaneously in thought unfolds sequentially in speech” (Vygotsky, 1987, vol. 1, p. 281). This idea is ubiquitous in Vygotsky’s treatment of inner speech: “External speech is a process of transforming thought into word; it is the materialization and objectivization of thought. Inner speech moves in the reverse direction, from without to within. It is a process that involves the evaporation of speech in thought” (Vygotsky, 1987, vol. 1, p. 257).
By evaporation Vygotsky understands the process of qualitative transformation of word from a material symbolic tool of mediation into a mental tool. The nature of this qualitative transformation is characterized by speech units assuming the function of thought mediation in addition to their original communicative role. Speech units begin to intercede in thinking processes as their meaning undergoes transformations under the influence of material activities.

Nevertheless, we should understand that Zebroski sees the central problem in applying Vygotsky’s cultural-historical psychology to writing theory quite correctly. According to him, this passage should take place through the mediation of the sign. Zebroski is not convinced that Leont’ev’s activity theory can provide “a legitimate elaboration of a theory of language consonant with Vygotsky’s intentions” (Zebroski, 1994, p. 278). He also doubts that such a theory can be developed based on Vygotsky’s original ideas because it would require “a great deal of time as well as intimate familiarity with the Vygotskian canon in both English and Russian” (Zebroski, 1994, p. 276). Zebroski recommends a third option – selecting an outside language theory that also belongs to the Russian scholarly tradition, but is not related to Vygotsky’s paradigm directly. He rules out Bakhtin’s (1994) theory as the most obvious choice because, in his opinion, despite the similarities, Vygotsky’s and Bakhtin’s systems of thought also have important differences. Zebroski’s explanation of the differences, however, does not evoke their conceptual structure, but instead points out the marginalized position of Vygotsky’s scholarship:

As provocative as the similarities between the two theorists of the twenties are, I have decided that ultimately their differences are more important. Those differences are not accidental, nor are they simply the result of working in different disciplines. Vygotsky differs from Bakhtin in the subject position his discourse occupies, due in part to his being a member of a minority group with hundreds of years of marginalization from mainstream culture, and the development of its own language and traditions. (Zebroski, 1994, p. 280)
As a semiotic addition, Zebroski chooses Yuri Lotman’s (2000) theory which seeks to answer the following questions:

- What happens when a text from an “alien” culture comes to the attention of a native or home culture?
- What are the various ways a home culture might react to an alien key source?
- What are the various ways a home culture might have on the approaching text?
- What are the possible effects the alien text might have on the home culture?
- How do textual and cultural systems evolve across time in relation to each other?
- How might we see textual dynamics as a bridge between individual and social processes?
- What is the historical role of textual and cultural difference? (Zebroski, 1994, p. 281)

The last two points on the list put the right emphasis on the relations between social and individual properties of human activities and suggest that they are connected through historical textual dynamics. We encounter the same focus in Vygotsky’s work, explaining the nature of human psychological development and consciousness through the notion of symbolic mediational tools. However, Vygotsky’s distinction between the structurally and functionally different levels of speech and inner speech does not coincide with Lotman’s understanding of “the dynamics of textual systems” (Zebroski, 1994, p. 280). The textual dynamics are defined as textual interpretation: “Lotman is concerned with the translations of texts across cultures and time” (Zebroski, 1994, p. 281).

Zebroski is correct in his focus on the notion of mediation and mediational means because, aside from speech, symbolic systems take shape as mediational tools in the form of textual artifacts. It is therefore appropriate to account for their role by introducing a relevant theoretical model of the way in which texts realize the psychological function of mediation. Yet it is necessary that the theoretical account of textual mediation proceed from the same premises as the rest of Vygotsky’s
framework. In the case of Lotman’s semiotics, we find no indication of how the movement of
textual translation outlined above is accomplished or what roles it plays in psychological
processes. Further details reveal that Lotman’s theory is in fact based on Freudian psychology:
“Lotman argues that one could see the development of various psychological formations like the
Oedipus complex, less a biological imperative than as a result of the working out of textual
dynamics between two differing semiotic systems” (Zebroski, 1994, pp. 281-282). We must
remark immediately that Vygotsky’s cultural-historical theory is opposed to Freudian
psychology. Vygotsky goes to great lengths to establish the relevant distinction:

  Freud does not solve the basic and essentially unsolvable question as to whether
  the unconscious is mental or not. He says that while studying the behavior and
  experiences of nervous patients he stumbled upon certain gaps, omitted links,
  forgetfulness which he reconstructed through analysis.

  On the one hand, the unconscious for Freud is a way to describe certain facts, i.e.,
  a system of conventional concepts; on the other hand, he insists that the
  unconscious is a fact that exerts such manifest influence as an obsessional action
  does.

  We would like to point out how this viewpoint differs from Freud’s viewpoint.
  As we have already said, for him the concept of the unconscious is, on the one
  hand, a way to describe the facts and, on the other hand, something real that leads
to direct actions. But this is the whole problem. We can state the ultimate
question as follows: let us assume that the unconscious is mental and has all the
properties of the mental except for the fact that it is not a conscious experience.
But is it really true that a conscious mental phenomenon can directly cause an
action? For, as we have said above, in all cases where mental phenomena were
held responsible for an action, we were dealing with actions that were carried out
by the whole psychophysiological integral process and not only by its mental
side. Thus, the very character of the unconscious, that it exerts influence on
conscious processes and behavior, requires that it be recognized as a

Based on Vygotsky’s arguments above, we conclude that cultural-historical psychology and
Marxist dialectics are incompatible with any semiotic theory based on Freudian postulates.
Consequently, we have to disqualify Zebroski’s suggestion of Lotman’s semiotics as a theoretical
foundation for Vygotsky’s construct of symbolic mediation. As we have shown above, Lotman
suggests that psychological functioning of an individual is based on the interpretation of various texts, with the notion of text being understood very broadly. It is precisely here that Lotman appeals to Freud’s ideas about the significance of the subconscious. Vygotsky questions the epistemological validity of Freud’s approach because Freud’s conception of the subconscious divorces it from actual psychological phenomena, putting it outside the realm of science. Lotman’s appeal to Freud automatically makes his theoretical position incompatible with Vygotsky’s theory.

Zerborski also warns against static interpretations of Vygotsky’s ideas, a view that would picture his model of psychological developments as immutable in time. As an illustration of this argument, he cites Sylvia Scribner’s “Vygotsky’s uses of history” (1997, p. 241), suggesting that her treatment of Vygotsky’s representation of time viewed through his notion of historical development may be problematic. Zebroski is critical of the fact that Scribner’s account appears to be linear. He draws this conclusion from Scribner’s summary of the lines of psychological development proposed by Vygotsky:

- LEVEL 1: Phylogeny, the developmental history of the human species and general human history
- LEVEL 2: The history of individual human society
- LEVEL 3: The natural and cultural life history of the individual in society (ontogeny)
- LEVEL 4: The history of particular psychological system (Zebroski, 1994, p. 207)

In Zebroski’s view, the elaboration of such levels or “layers” of development is based on the geological metaphor or the meteorological metaphor. This gives him grounds to claim that privileging such metaphors implies a conception of a beginning and an end, i.e. teleology. This conclusion is only warranted if we make it from outside the Marxist dialectical method. For Vygotsky, however, these levels stand for the levels of dialectical abstraction that allows for
analyzing a complex phenomenon by identifying the internal relations that determine its nature. By contrast, Zebroski discusses the uses of Vygotsky’s paradigm in writing studies through the lens of the underlying metaphors that he tries to identify in Vygotsky’s arguments: “Thought is a cloud shedding a shower of words. Motive is a wind driving along the clouds of thought. Word meaning arises from the ocean of our society to be transformed into the unique, dynamic, and unrepeatable, but still related weather of mind. Consciousness is reflected in a word as the sun in a drop of water" (Zebroski, 1994, p. 308). In Zebroski’s opinion, these metaphors help Vygotsky to articulate the notion of universal and constant change. We already know that Vygotsky’s epistemology relied not on such metaphors, but on the premises of Marxist philosophy of nature. Specifically, Vygotsky adopts the basic tenet of Marxist that the world is material and remains in constant motion and development to argue that the human psyche embodies and reflects these properties at the same time. Vygotsky also maintains that the nature of psychological development consists in qualitative changes whereby psychological functions develop in conjunction with material activities and collective or social interactions. The demands of this socio-material environment, as well as the tools it provides in the form of mediating symbolic systems, cause psychological performance to reach new levels. However, such development occurs not through complete elimination or negation of formerly available psychological functions, but through their reorganization that gives rise to new functional psychological systems.

Yet, even without mentioning Marxist dialectic, Zebroski is very much on the right path methodologically when he argues that Vygotsky’s approach is a useful alternative to empiricism and its poststructuralist incarnations of the French origin: “Composition theory is built on Anglo-American empiricism and its notions of self, word, and reality. Vygotsky offers an alternative to
that of empiricism that is more attractive to oppositionists than the French critique” (Zebroski, 1994, p. 308). Similarly, he seems to be aware of the dialectical nature of Vygotsky’s treatment of self which places it at the intersection of the social and individual lines of development. Zebroski justly asserts that the Vygotskian conception of self provides a valuable vantage point for a methodological critique of “the continental poststructuralist quagmire” (1994, p. 308). This criticism exposes the methodological flaw in the post-structuralist argument that advocates de-centered human agency – a view, holding that the human self is an aggregate of fluctuating meanings that emerge from discourses associated with various social practices. De-centeredness of the human subject implies that social and cultural structures or practices have primacy over individual consciousness. The inadequacy of the post-structural critique consists in the fact that, instead of elucidated the nature of the connection between consciousness and the socio-material reality and thus overcoming the mind-body divide, post-structuralism simply removes one part of the equation – the notion of the autonomous material subject. This move effectively dissolves consciousness in the midst of human relations, leaving no room for investigating it within concrete boundaries. Vygotsky, as Zebroski indicates, would have called such an approach antidialectical.

According to Zebroski, another little-noticed aspect of Vygotsky’s work is his emphasis on the inseparability of intellect from emotions: “It is very Western to divide emotions from intellect and to concentrate on intellect, dismissing feelings as disorganizing … We encounter here another grand dichotomy comparable to the division of the individual from the social in the importance it has had for modern Western images of the world” (Zebroski, 1994, p. 300). Vygotsky’s account of the relationship between affect and other psychological and physiological functions overrides the Cartesian separation between reason and passion. Instead he suggests that emotions originate
as physiological reflexes and their systems which determine feelings biologically, “as a quick evaluating reaction of the whole organism to its own behavior, as an act of interest of the whole organism in the reaction, as an internal organizer of all behavior present at a given moment” (Vygotsky, 1987, vol. 3, p. 75). Based this genetic argument, Vygotsky makes the logical conclusion that thought and affect are intertwined and have the common basis in the overall relatedness of consciousness to social and material interactions with the world:

To put it more simply, our affects act in a complex system with our concepts and he who does not know that the jealousy of a man who is bound by the Islamic concepts about women’s fidelity and of a man who is bound up by a system of opposite conceptions about women’s fidelity is different, does not understand that this feeling is historical, that it changes its essence in different ideological and psychological environments, although there undoubtedly remains a certain basic biological component on the basis of which this emotion develops. (Vygotsky, 1987, vol. 3, p. 103)

Once again, Zebroski underscores, we observe Vygotsky’s push to provide a holistic explanation of human psychology that brings together the mental and the physiological sides of these processes and traces down the course of their historical development.

Finally, Zebroski’s reference to Kozulin (1984) highlights crucial omissions of methodological argumentation in the early translations of Vygotsky’s work in the U.S. in which Vygotsky referred to Marx and Hegel. We have mentioned earlier that the essence of Vygotsky’s project consists in elaborating the premises of Marxist philosophy into a fully-fledged psychological theory with the help of the dialectical method of analysis. In Zebroski’s opinion, the fact that American authors have persevered with introducing Vygotskian ideas into the academic discourse in the U.S. during the Cold War is highly commendable. However, Zebroski questions the possibility of comprehending Vygotsky’s ideas fully without a proper understanding of Marxist materialist dialectic.
We now have to pose the question whether Zebroski’s own interpretations of Vygotsky suffers the same fate since he does emphasize the role of Marxist dialectic in it explicitly. In terms of the rhetorical situation in which Vygotsky’s texts function nowadays we have to conclude that the tide has turned, now that his major works and secondary scholarship are available from reputable publishing sources: “When such prestigious university presses are publishing such lengthy and expensive, not to mention complex, works about Vygotsky’s theory, one can anticipate increasing interest in Vygotsky’s theory, spurred on perhaps by the loosening restrictions, first of Gorbachev’s perestroika, and then of the Russian Federation and the new Commonwealth of Independent States” (Zebroski, 1994, pp. 291-292). However, on the example of Zebroski’s contribution we observe that the understanding of Vygotsky’s scholarship continues to be lacking in some respects, while having advanced in others. Zebroski correctly identifies the central epistemological theme in Vygotsky’s approach which consists in overcoming the division between individual and social aspects of psychological development. Similarly, he repeatedly brings up the issue of symbolic mediational means as the main ingredient of Vygotsky’s scientific explanation to show how this divide can be bridged. Also, Zebroski justly notes that the construct of symbolic mediational means requires additional elaboration, but we cannot accept his solution to use Yuri Lotman’s semiotic theory for this purpose because its epistemological foundations are incompatible with the Marxist dialectical method used by Vygotsky. The central reason that does not permit Zebroski to produce a convincing argument with a proper interpretation of Vygotsky’s work is his inability to appreciate the function of Marxist dialectic in it. However, we do agree with Zebroski that a consistent theory of writing can only emerge from a detailed analysis of the relations implied by Vygotsky’s construct of mediational means. While his search for an adequate extension of Vygotsky’s discussion of this topic may not have produced theoretically convincing
results, it is still a significant step in the right direction – toward a serious reevaluation of the conception of that separates the roles played by symbolic representational systems in social practice and mental life of the subject. In contrast to this conception, Zebroski brings forward the idea that symbolic mediation is a reciprocal process that interfaces one’s psychological processes with material activities and social contexts; for this he deserves significant credit.

Bazerman and Smagorinsky: attempts to achieve an amalgamation of Vygotsky’s and Leont’ev’s theoretical ideas with other explanatory paradigms

Charles Bazerman and Peter Smagorinsky are noteworthy for their contributions to writing pedagogy – the development of practical writing skills and instructional planning and organization. For example, in Bazerman (2007) we find a thorough summation of the development of writing as a research discipline and a teaching practice. His recent work (Bazerman, 2005) also focuses on writing in and across the disciplines and retraces the history of the WAC (Writing Across the Curriculum) movement. By contrast, Smagorinsky’s scholarship gravitates more toward the issues of writing pedagogy (e.g. Smagorinsky, 2007), but also tackles theoretical questions – using Vygotsky’s framework in literacy research (Smagorinsky, in press). Both authors claim allegiance to Vygotsky’s ideas, activity theory, and generally the theoretical stance originating in Soviet psychology. This theoretical framework underlies much of their work, often in conjunction with other theoretical positions. Let us now examine the way both authors utilize its premises and principles in their writing research in detail.
Bazerman’s general goal is to show the need for a new theoretical paradigm that could pave the way for new practices in student assessment:

Assessment although only part of the educational process has implications for almost all of education. Local, state, and federal policies that have put great weight and high stakes on a battery of assessment tools that stand outside the daily life of the classroom but are intended to hold classrooms, teachers, and schools accountable for results.

While situated evaluation is an aspect of most human practices, institution-wide testing creates substantial difficulties for the local practices of each class, and particularly creates tensions between student-centered classroom practice and subject-centered expectations. Such tensions have been a continuing puzzle for progressive education. (Bazerman & Russell, 2002, p. 428)

Because of the claimed far-reaching impact of assessment across the educational process, Bazerman’s push for an overarching explanatory framework is well warranted. The construct of activity is an obvious candidate for the principal unit of analysis in assessment because it provides enough breadth of abstraction to account for the complicated nature of the educational process.

Scholars often prefer to extend their theoretical arsenal with new ideas once such new ideas come along, rather than convert completely to a new paradigm. Bazerman’s scholarship is an apt illustration of this assumption. Given his previous scholarly background in textual analysis, specifically genre theory, Bazerman brings it to bear on the construct of activity that forms one of the cornerstones of the Soviet approach to human psychology. In Bazerman (1995) the theoretical constructs typical of textual analysis (e.g. genre, discourse, and textual practice) focus on text as a material representational vehicle, bracketing out human agency and the psycho-social phenomena that define it. In a sense, the brand of textual analysis that Bazerman expounded in his earlier scholarship could be viewed as an offshoot of methodologies used in Linguistics. It is not by chance, therefore, that his theoretical account begins with the construct of genre: “Genres are
typified forms of utterances recognized as useful in circumstances recognized as being of a
certain type” (Bazerman & Russell, 2002, p. 462). At this point Bazerman’s interpretation of
genres is strictly textual; it does not incorporate psychological processes or the general material
circumstances of human activities from which they emerge. However, Bazerman further claims
that “genres typify many things beyond textual form. They are part of the way humans give
shape to social activity” (Bazerman & Russell, 2002, p. 463). Genres, according to him, can be
seen as gateways into larger activities that subsume them. This definition of genre underlies
Bazerman’s claim that genres do not only characterize, or emerge naturally from, human
activities, but they also shape them: “Those spheres of activity, or activity systems, having been
then constituted, the genres then form modes of participation and motives for formulating one’s
participation” (Bazerman & Russell, 2002, p. 463). The central flaw of this statement is the
underlying mechanistic epistemology. Bazerman’s assertion works with reified constructs of
genre, activity system, and motive that form mechanistic relations with each other. In it, the
constructs of genre, activity system, and motive are represented and imagined as material entities
that interact with one another, just like solid bodies interact in the world of Newtonian physics.
We, therefore, predict a clash with the dialectical epistemology embodied by Vygotsky’s cultural-
historical theory and proclaimed in Leont’ev’s activity theory.

Another contentious move sees Bazerman cite Bakhtin’s notion of chronotope that refers to an
ambiguous unity of time-space in which people realize their semiotic activity through genre. We
can see that this description is interesting in its attempt to combine material and temporal reality
into one theoretical construct, but it gives us no suggestion as to how this unity is realized socially
and psychologically. We have noted earlier that Bakhtin’s work is not compatible with Vygotsky
due to its idealistic philosophical orientation, even though its key concepts appear to be congenial
to Vygotsky’s position. Bazerman’s interpretation of the construct of genre fluctuates, shifting to what is known as the communicative situation in sociolinguistics or the rhetorical situation in rhetoric: “In engaging in the communicative relations of a genre we typically need to deploy certain specific of knowledge and thought associated with that genre” (Bazerman & Russell, 2002, p. 463). The confusion is then compounded by a logical incongruity. First, Bazerman complicates the notion of genre by positing the possibility of genre constellations, though a definition from Devitt (1991): “A Genre Set is the collection of types of texts someone in a particular role is likely to produce” (in Bazerman and Russell 2002, 464). Again, this explanation of genre is purely textual. Bazerman reverts to his definition of genre systems from his previous work (Bazerman, 1994): “A Genre System is comprised of the several genre sets of people working together in an organized way, plus the patterned relations in the production, flow, and use of these documents” (Bazerman & Russell, 2002, p. 464). This definition of genre is opposite to the previous two and also contains an internal contradiction: the first part of it reinterprets genre in terms of activity, while the second returns to its original sense – types of textual artifacts. The origins of this conflation of terms, and the phenomena they are supposed to denote, are to be found in the analytical move away from the epicenter of activity that generates genre systems as part of its functioning. The epicenter of human activity is not its material context, but the human individual who carries out this activity by enlisting social and material phenomena into its orbit. It is the psychological properties, the manner of their realization and development, of the individual that determine the overall shape of human activities. Hence individual psychology, and its development, is the appropriate starting point for any analytical enterprise that seeks to explain why human activities take on a specific form or unfold in a certain fashion. This is not to say, however, that such constructs as genres and their systems or sets are completely without merit. On the contrary, their utility lies in their capacity to characterize the material artifacts involved in
human activities. These artifacts comprise material or psychological tools that facilitate activity by representing it in a way that could be incorporated into psychological processes – symbolic mediation. The mistake consists in privileging genre and its derivatives in the analysis, or in equating it with the notion of human activity.

Generally, Bazerman’s discussion concentrates on the surface manifestations of activity, only rarely suggesting that other, less conspicuous forms of activity might be possible: “In defining the system of genres people engage in, you also identify a framework which organizes their work, attention, and accomplishment” (Bazerman & Russell, 2002, p. 464). This statement implies that genre is no longer a construct, denoting symbolic accessories to or objects of activity; possibly, Bazerman’s intention is to consider mental activity as part of the notion of genre. However, he only makes the distinction between physical activities, on the example of the game of basketball, and activities “organized around written documents” (Bazerman & Russell, 2002, p. 465). The latter kind of activities seems to include only the physical aspects of behavior that contain the use of textual artifacts. Thus the connection between genre and activity becomes problematic. Yet the most serious drawback of such an account is not in the clash between genre theory, with its roots in purely textual analysis, and the construct of activity that emerges from Marxist philosophy. Its main problem is in obscuring the distinction between mental and physical activity and the inability to explain its essential dialectical contradictions that contribute to its unity in development. Bazerman’s interpretation of the activity framework fails to examine it critically and build a genetic understanding of it. A genetic understanding of activity, conforming to Marxist dialectics, ought to begin with a consideration of the material circumstances, bearing on the distinction between mental and physical activity. The fundamental fact of this distinction is the physical autonomy of psychological processes. On the other hand, an examination of the path
of psychological development, as noted by Marx, Engels, and their followers, uncovers an intricate coupling of mental processes to the environment, human activeness with respect to it, and collectivity. It is not by chance that Leont’ev (1978) devotes an entire chapter to the analysis of the processes, occurring on the level of perception. Perception, according to him, is not a merely passive process whereby real objects imprint themselves on the sensory organs whose role is that of passivity: “In perception there is always an active process of “extracting” from real activity its properties, relationships, etc., their fixation in short-term or long-term states of the receiving systems, and reproduction of these properties in the acts of forming new images, in the acts of recognizing and remembering objects” (Leont’ev, 1978, p. 41). Although the construct of activity may not allow for a focused explanation of such psychological processes due to its high level of generality, Leont’ev is correct in positing the active manner of human relatedness to the material environment: “Not only concepts, but also our sensory representations are dialectical” (Leont’ev, 1978, p. 43). Then, the dialectical contradiction driving individual human development is between the individual mode of physical existence and the social nature of psychological development. Outside of a dialectical approach, the construct of activity leaves the social and the individual sides of psychological processes undifferentiated.

An interesting point about Bazerman’s appeal to activity theory is that his writings lack references to works by A.N. Leont’ev, the founder of the approach. Indeed, if activity theory is chosen as a guiding theoretical framework, we would expect a brief account of its canonical interpretation before the discussion progresses to other matters. By contrast, the bibliography does include several works by Vygotsky (1962 and 1978). The inclusion of Vygotsky creates a false impression of the place that the notion of activity occupies in Vygotsky’s works. While using the term “activity” in reference to the general nature of human development in Marxist
philosophy, Vygotsky’s cultural-historical theory never raises it to the level of a key theoretical construct, let alone the main unit of analysis.

Let us first fill in the gap left by Bazerman when he fails to draw on Leont’ev for the established understanding of activity as an analytical category and its place in Marxist psychology. By way of a preliminary note, it is important to point out that Leont’ev is a Marxist psychologist in a much stricter sense than Vygotsky. This is not to say that Vygotsky downplays the premises of Marxist philosophy in his work; instead, it would be more appropriate to argue that Vygotsky’s writings display subtly different choices in the application of Marxist principles. Leont’ev, on the other hand, appropriates Marx and Engels in a more literal way. Just like Leont’ev, Vygotsky subscribes to the general Marxist premise that man became possible with the advent of collective labor which, as Engels observes, began with changes in the physical constitution of the human body. Upright walking meant an evolutionary advantage, consisting in the increased field of vision and freed front limbs for manipulating objects. In a dialectical leap, manipulating objects with a purpose gave rise to labor which in turn required a new advanced set of motor functions: “Thus the hand is not only the organ of labor, it is also the product of labor. … But the hand did not exist alone; it was only one member of an integral, highly complex organism” (Marx & Engels, 1987, vol. 25, pp. 453-454). The use of hands in labor not only promoted mental and physical dexterity, but also opened the door for social interaction. Gestures accompanied by vocalizations increased the degree of coordination of collective efforts and culminated in language, as these articulatory patterns settled into stable mental forms. While underlining the cornerstone importance of this premise, Vygotsky turns his interest to the nature of the transition that takes place at the juncture of man’s physical activities and his psychological functions. He considers this transition to be a dialectical whole but keeps his investigation focused on the
mental domain. According to Vygotsky, goal-oriented activities of labor undergo special transformations as they shape man’s consciousness and emerge as meanings structured according to psychological laws. Viewed dialectically, these units of meaning continue to bear the imprints of activities in which they have formed but expose them to new transformations and thus give them a new quality. Leont’ev agrees with this in principle:

> the principal community of external and internal activity is uncovered as mediating the interrelations of man with the world in which his real life is realized.

Corresponding to this, the principal distinction lying in the basis of classical Cartesian-Lockean psychology – the distinction, on the one hand, of the external world, the world of space to which external physical activity also belong, and on the other hand, the world of internal phenomena and processes of consciousness – must yield its place to another distinction: on the one hand, objective reality and its idealized, transformed forms (*verwandelte Formen*), and on the other hand, activity of the subject, including both external and internal processes. This means that splitting activity into two parts or sides as if they belonged to two completely different spheres is eliminated. Also this presents a new problem, the problem of investigating the concrete relationships and connection between various forms of human activity” (Leont'ev, 1978, p. 61)

Leont’ev’s explanation is consistent with the Marxist philosophical basis. He is quite correct in pointing out that this explanation hinges on the interface of activities in the material reality with mental processes. Vygotsky’s solution to posit mediation and mediatory psychological tools as the leading actors in this transition displeases Leont’ev as “in many ways unsatisfactory and too abstract” (Leont'ev, 1978, p. 62), although he agrees to consider it as a starting point. However, Leont’ev welcomes Vygotsky’s construct of motive because it provides the necessary leverage to change the vantage point in the consideration of the entire problem. Motive implies goals, and goals represent the manner of human orientation toward the environment. This logic requires raising the construct of activity to the status of the main unit of analysis. Two unfortunate consequences follow. Firstly, Leont’ev dismisses Vygotsky’s construct of psychological tools as a means of interiorizing the structural relationships in practical activities as too general, but his
own shift to the activity-based framework implies a much higher level of abstraction. Incidentally, Leont’ev’s objection to the category of interiorization may be valid, since this construct implies a one-directional change: consciousness does exert a reciprocal influence by evidencing itself in material actions. Yet, the need to reinterpret the notion of interiorization leaves the foundation of Vygotsky’s model intact. While recognizing its merits, Leont’ev de facto dispenses with it by switching his attention to the apparent structure of human activities, analyzing their constituent elements (actions and their goals and operations, comprising different tasks). Thus, in focusing on activity he makes a decisive departure from considering the special nature of psychological processes as distinct but genetically related to the material circumstances of life. Secondly, Leont’ev violates the principle of the dialectical unity of the mental and the material planes of activity that he himself declares. An important consideration in this respect is the autonomous nature of the psychological subject. Mental functions do not extend into man’s material environment; they are localized within the human body that has physical autonomy. Leont’ev’s argument is reductive because it shrinks the dialectic between the material and psychological sides of psychological functioning and development only to its material side – observable human activity. Leont’ev’s activity theory has difficulty accounting for the mental part of activity because, while it recognizes the importance of symbolic mediation in it, it does not elaborate on the way mediation impacts and augments the psychological functions of thinking, attention, perception, volition, and memory. Similarly, activity theory declines to explore the role of generalization imbedded in symbolic representational systems, and principally human languages, in the social production of consciousness – a task that comes to the foreground in Vygotsky’s analysis:

To communicate an experience or some other content of consciousness to another person, it must be related to a class or group of phenomena. As we have pointed out, this requires generalization. Social interaction presupposed generalization and the development of verbal meaning; generalization becomes
possible only with the development of social interaction. The higher forms of mental social interaction that are such an important characteristic of man are possible only because – by thinking – man reflects reality in a generalized way.

Therefore, it may be appropriate to view word meaning not only as a unity of thinking and speech but as a unity of generalization and social interaction, a unity of thinking and communication. (Vygotsky, 1987, vol. 1, pp. 48-49)

Also, Leont’ev’s emphasis on activity makes its explanation purely descriptive and reliant on the physical presence of an observer due to the extremely abstract nature of the construct. Similarly, experimental testing of various hypotheses about the nature and dynamics of human activities appears to be out of the question because it is not possible to determine their exact boundaries (Witte, 2005).

Finally, Bazerman’s application of activity theory to educational practice is emblematic of perhaps the most widespread misconception regarding historical-cultural psychology. Bazerman correctly identifies two approaches to assessment and curricular planning: the teacher-centered and the student-centered classroom. However, he is quick to point out that “schools are rarely so dichotomous” (Bazerman & Russell, 2002, p. 437). His plea for less regulation and standardization is also understandable because these practices may have gained too much weight in education and are eroding the effectiveness of instruction. Incorrectly, it is commonly argued that Vygotsky’s and Leont’ev’s schools of psychological thought, Bakhtin’s works, as well as the movement of social constructionism in the West, provide a justification to the student-centered classroom: “From the point of view of a rich complex curriculum, other sorts of assessment may seem preferable for formative curricular planning purposes. Vygotsky’s (1978) concept of the zone of proximal development suggests rather than assessing fully accomplished skills you may be better off assessing kinds of activities the student could participate in and learn from with appropriate support” (Bazerman & Russell, 2002, p. 439). On the one hand, it makes good sense
that students should have an emotional stake in their learning, and some of them indeed do, in spite of rather than thanks to the imperatives of mass education. On the other hand, Vygotsky’s theory of psychological development posits stages of psychological development marked by qualitative transformations in the structure of psychological functions. His construct of the zone of proximal development implies that students are unable to control their own psychological processes through mediational means when a certain threshold of difficulty is reached in their learning activity. Thus the principle dialectical contradiction in psychological development is between what one can accomplish independently and what one can do with extraneous help. The resolution of this contradiction in the form of psychological development is always predicated on the interference of a more competent person who can marshal the student along. In this sense, Bazerman’s question regarding “the activities and the environment that will foster particular kinds of advanced learning” (Bazerman & Russell, 2002, p. 439) is misguided in its focus on activities and the environment. Since, according to Vygotsky, mediational tools are a means of psychological control, and the essence of consciousness is dependent on such control, it follows that students require outside direction in the form of teaching interference. A student-driven classroom, therefore, contradicts the nature of psychological development, as it is understood in Marxist psychology. It is interesting that this contention is born out by Bazerman’s own case study, as well as a similar study by Smagorinsky (2000, pp. 165-190).

Bazerman observed a class of six graders in a Californian elementary school, as they were working on a project in social studies that focused on the Maya civilization. The project consisted of a series of handouts, presenting relevant cultural-historical facts and ended with written reports in which the students were supposed to summarize what they had learned:

In traditional terms the activity of this unit could simply be characterized as learning social studies facts and concepts with some reinforcing activities. …
Quizzes and exams equally show only the accumulation of fragmentary facts and ideas. Only a few students were able to achieve a level of articulated synthesis that gave a sense of totality of vision to their papers” (Bazerman & Russell, 2002, p. 467).

It is fairly clear from Bazerman’s account that little learning took place. Evidently, the zone of proximal development cannot lead to psychological growth unless learners are forcefully guided with direct pedagogical interventions during face-to-face interactions. In other words, the zone of proximal development, considered as an inherent part of Vygotsky’s cultural-historical theory, necessitates a degree of pedagogical coercion. The conclusion may sound alarming to the liberally minded ear, but it is born out by Bazerman’s study, as his comments above indicate. However, Bazerman is not ready to pass such a drastic ruling. Instead, he opts for a more politically correct verdict:

When we look at the total activity system of the classroom as students participated in each unit, and the kind of work and learning accomplished in the production of each of the teacher-directed genres, we can see that students were doing more than reproducing facts from handouts and books. They were thinking about the material and using the material to engage in other activities, which required understanding and elicited motivated engagement. … The end result included familiarity with some factual information about the Maya. The result, however, also included a sense of what Mayan life was like, an experience of being an inquirer into another culture, increased skill in synthesizing and presenting information, using knowledge creatively for imaginative production, and a sense of the practical import of the information. (Bazerman & Russell, 2002, p. 474)

The end of this citation is in direct contradiction to Bazerman’s previous statement, regarding the fact that most students’ work was a haphazard collection of facts and ideas, with no attempt at a systemic understanding of the material. Such inconsistency is a direct consequence of misinterpretations of Vygotsky’s construct of the zone of proximal development in which it is taken out of the context of his psychological theory. However, the actual causes of Bazerman’s theoretical impasse are in his inability to employ Marxist dialectic for the analysis of assessment.
Once again, if a commitment is declared to Leont’ev’s activity theory or Vygotsky’s cultural-historical psychology, a Marxist philosophical orientation becomes a conditio sine qua non.

Marxist dialectics underpinning Vygotsky’s theory requires that, in order to discover historical genetic roots of contemporary assessment practices in the U.S., an analysis of the social and economic conditions of education be conducted. Under such socio-economic conditions, one must consider the historical development of the mode of production, the division of labor and the productive forces, the emergence of social classes related to this division, the evolution of state governance and political process in conjunction with the mode of production, and the economic and political conditions for the appearance of mandatory schooling. This analysis has to be historical in the sense that it must expose the mechanisms and the driving forces behind the development of educational practices through the examination of the internal and external relations denoted by its theoretical constructs. Viewed from this perspective, education and educational assessment will be explained as a product of a certain socio-economic reality that defines them qualitatively.

An interesting corroboration of a possible misreading of the implications of Vygotsky’s cultural-historical psychology (specifically, the construct of the zone of proximal development), and the premises of Leont’ev’s activity theory, for educational practice comes from Smagorinsky (2000). He observed two groups of high school students in a literature class who worked on a project of constructing a body biography for the characters of *Hamlet*. The body biographies were essentially body outlines inscribed with pictures and words that reflected the students’ understanding of the characters. Structurally, the project activities did not differ from the Maya history projects undertaken in the course observed by Bazerman (Bazerman & Russell, 2002).
The two groups described by Smagorinsky exhibited drastically different performance. While one of the groups, consisting predominantly of girls, was calm and diligent, the other group dominated by boys proved to be rambunctious. Judging by the transcripts of conversations in the latter group, some of its members were repeatedly bullied, and yet they did the bulk of the assigned work. Also, the group spent a considerable amount of time on non-relevant conversations. Smagorinsky catalogued the replicas in the dialogues within the groups under two categories, signifying constructive and destructive social processes. As a result of this analysis, the second group was found to have exhibited predominantly destructive social dynamics.

Smagorinsky interprets his results with the help of the construct of the relational framework of a group’s interaction implied by his coding scheme. His conclusion reflects what was already obvious during the observations:

We see, then, that the ways in which the teacher’s effort to envision an ideal citizen and structure a classroom to facilitate students’ development toward that end can be reconstructed by students whose past experiences have helped them form goals for schooling that are different from the teacher’s. . . . Even in late February, after 6 months of Cindy’s systematic efforts to get the students to see themselves as meaning-makers and to view their work as a vehicle for personal development, they interpreted their task primarily as teacher-pleasing. (Lee & Smagorinsky, 2000, p. 185)

An adherent of the idealist or behaviorist approaches may argue that we are just dealing with unruly teenagers, trying to derail productive work, and cite various obscure reasons for this that might range from the influence of subconscious drives to a lack of corrective stimuli. A psychologist of Vygotsky’s school, however, will point out that Smagorinsky records the most likely outcome that is conditioned socially and economically. The students’ guerilla war against the ruling arrangements of school procedures is not occasioned by their human nature, but by their perceptions of the role of schooling in the larger society, which in turn is determined by the economic forces of material production. If the logic of the socio-economic process encourages
people to be passive consumers and docile employees, there is no reason for them to strive to become proactive “meaning-makers” in the classroom. At the same time, the teacher seems to be trapped in the preconceptions of liberal education which urges her to provide her students the maximum freedom of action. One cannot help but see parallels in the debate between free marketers and market regulators on the American politico-economic scene: their controversy is very much reminiscent of Marx’s contention that the relations of production and consumption under capitalism define the social discourse agenda and the distribution of power.

On a more theoretical note, both Bazerman’s (Bazerman & Russell, 2002, pp. 428-482) and Smagorinsky’s (Lee & Smagorinsky, 2000, pp. 165-190) studies prove that if a justification for a student-centered classroom is to be found at all, it will certainly not be found among the principles of Marxist psychology. The connection between material collective activity and the formation of individual psychological functions described by Vygotsky does not give any grounds to favor either factor. On the contrary, his construct of mediational tools presupposes that the individual needs to sever the direct psychological linkage to the immediate environment in order to gain control over his own mental processes and develop consciousness. If anything, this principle advanced by Vygotsky as an extension of the Marxist dialectical approach to the discussion of man’s origins implies that individual mental discipline and performance come from without before they can be sourced from within. If a person is unable to exert such a discipline through material symbolic tools, that is, independent study, he must be helped along by a qualified tutor, in full agreement with the fundamental nature of the zone of proximal development. To summarize, Vytosky’s theory, and even Leont’ev’s approach – despite its deficiencies – have no place for laissez faire pedagogy. A more adequate formula of pedagogical action matching the spirit of Marxist psychology would most likely invoke comprehensive
tutelage and direction on the part of the teacher. It is very gratifying, after all the criticism of Bazerman’s treatment of activity theory and its underlying philosophical foundation, to conclude with an argument of his that is hard to contest exactly for the reasons laid out above:

Progressive, child-centered education is regularly cast as the romantic enemy of high quality schools with rigorous, accountable, assessed schooling. Child-centered education is regularly seen as giving way to children’s undisciplined world in sore need of the basics of disciplined knowledge that school has to offer.

Neither Dewey nor we can solve this dilemma of student and subject by insisting that teachers bring to bear disciplinary learning and by hoping that students’ interests will lead them into the paths of desired knowledge. While we may firmly believe that true, deep, and disciplined learning comes only from personal engagement in serious problems, unless we can find a way to harness this idea to orderly learning and institutional imperatives for planning and accountability, it is very difficult to make this insight the basis of widespread schooling. This dilemma needs to be solved if we are to create a robust, pervasive orientation towards learners’ understandings and motivations in our schools at all levels. Even if we are successful in fostering the individual talents of teachers so that they can regularly improvise ways of holding student and subject together, no institution can rely on genius every day by all participants. We need ways to identify regularizable goals, institutionally supportable activities with appropriate finite resources, strong tools for recognizing higher standards for teaching and learning, and convenient instruments for monitoring results. (Bazerman & Russell, 2002, pp. 448-449)

Vygotsky’s cultural-historical theory of human psychology viewed in the context of Marxist dialectics corroborates the idea that productive learning is impossible if it relies only on student initiative. The notion of child-centered education, Vygotsky would argue through his construct of the zone of proximal development, is a utopian proposition because it contradicts the logic of human psychological development. Vygotsky contends that all psychological functions begin their development in the form of material human activities whose structures are interiorized into a person’s mental sphere during development. Learning in educational settings is distinguished from natural development due its guided nature. According to this rationale, educational goals cannot be achieved in the absence of instructional leadership on the part of the teacher.

Discipline, structure, and pedagogical assistance are the key ingredients that drive psychological
development in educational settings because they shape the zone of proximal development for the student. They determine the scope of psychological functioning that can be achieved with the teacher’s help and guidance. Bazerman and Russell are correct in arguing that learning will stall without such external influence. In other words, there is a dialectical relation between the student’s autonomous activities and the activities carried out within the context of educational goals, pedagogical supervision, and instructional interference. The following chapter presents an account of the Marxist dialectical method whose mastery is necessary in order to fully apply the theory of psychological development advanced by Vygotsky to the case of educational psychology.
Chapter IV: Marxist dialectics for scientific analysis

In order for Vygotsky’s work, as well as the scholarship by other Soviet psychologists, to be understood properly, one must account for the way in which their analytical method structures their thinking. The need to attend to the thinking process of the researcher follows from Vygotsky’s own notion that human thinking relies on incorporating symbolic mediational tools into one’s psychological functions. Therefore, in order to explain his scientific results, one needs to analyze the nature of his scientific method in conjunction with the way it structures Vygotsky’s thinking with respect to his object of study. This chapter will explore the role of Marxist dialectic as a mental tool that guides one’s thinking during scientific analysis.

In studies of writing, society, and human psychology, we encounter a unique confluence of circumstances. On the one hand, most of the research in writing studies is textual in nature because the very nature of inquiry in the field resists rigid formalization schemes favored in natural sciences. So we end up in the midst of research practice that is heavily language-centered. This means that the mediational tool which props our argumentation and explanations coincides with the mediational tool that, according to Vygotsky, defines the foundational relations of our psyche. Thus, while devoting considerable attention to debates about proper research focus and units of analysis, we often lose sight of the possible difficulties that arise from the interplay between our method and our mediating tool of thinking – language.

The way we learn our native language in childhood is intertwined with the immediate material circumstances and communication contexts. As a result, linguistic elements and structures are assimilated as a functional background to concrete activities. We only raise linguistic structures to
the level of conscious attention when communication breaks down. When we do this, we are often amazed at the realization that we do not know why we say certain things in certain ways. Formal schooling reverses this trend to a certain extent by introducing contexts that facilitate deliberate uses of language. However, the inertia of everyday language use is so great that the influence of formal schooling in raising our awareness of our subconscious linguistic ways can be only marginal. And we do carry our daily habits of using linguistic thinking tools into research practice, which most commonly results in perceiving research constructs as things, or reified entities. The tendency toward reification is a direct consequence of the fact that language develops in direct reference to material activities or circumstances. Scientific training is supposed to counteract this trend, but it does not always succeed in this task. The critiques of the uses of Vygotsky’s cultural-historical psychology and Leont’ev’s activity theory in writing and literacy studies have shown that the predisposition to perceive research constructs as reified entities in mechanistic frameworks of cause and effect can be very strong. We have come to realize that, perhaps, if the authors had a mental tool or procedure to control and guide their analytical steps, they could have avoided some of the pitfalls in their interpretations of cultural-historical psychology and activity theory. These very frameworks already embody the usage of such a mental tool – Marxist dialectic, and yet none of the authors whose works we have analyzed has suggested a full appreciation of its role. Instead, it appears that the interpreters and users of Vygotsky’s and Leont’ev’s ideas regard Marxist dialectic as an auxiliary topic in their work that can be omitted from consideration without detriment to the subject matter at hand. This is a significant omission. For Vygotsky, Marxist dialectical method of analysis is as much a psychological tool of thinking, as it is a grand philosophical scheme of reality. It is the role of the dialectical method as a mental tool, a means of control over the analytical enterprise in science,
that we turn our attention next. This is a dimension of Marxist dialectic that has never been
explored in proper detail in conjunction with Vygotsky’s and Leont’ev’s works.

Commonly, Marxist dialectic is understood to refer to the most general laws of nature. Of course,
this is a valid interpretation that emphasizes dialectic as “the science of interconnections” (Marx
& Engels, 1987, vol. 25, p. 356). Marx and Engels argue that “the dialectical laws are real laws of
development or nature, and therefore are valid also for theoretical natural science” (Ibid, p. 357).
As the basic premise in Marxist dialectic is the presence of a material world that exists in a state
of permanent change, the human mind and the laws of thinking are presumed to be part of this
world, obeying its general laws. It follows from this rationale that careful attention should be
given to the movement of analytical thought if it is to reflect correctly the processes and
phenomena that occur in nature. The result of this line of reasoning is quite extraordinary because
it implies that the logic of the historical development of nature and man coincides with the logic
of the historical development of the human mind:

It is, therefore, from the history of nature and human society that the laws of
dialectics are abstracted. For they are nothing but the most general laws of these
two stages of historical development, as well as of thought itself. And indeed
they can be reduced in the main to three:
- The law of the transformation of quantity into quality and vice versa;
- The law of the interpenetration of the opposites;
- The law of the negation of negation.
(Marx & Engels 1987, vol. 25, p. 356)

Of course, formulating specific interpretations of these laws for inanimate matter is fairly easy.
For example, from basic chemistry we know that combining two atoms of hydrogen and one atom
of oxygen produces a substance whose properties are quite different from the properties of the
atoms taken separately. Both oxygen and hydrogen are gasses while water is a liquid at room
temperature. The mechanical addition of the properties inherent in these chemical elements does
not define the properties of the resulting substance. The properties of water and the properties of its constituent elements are clearly opposite, or if we use dialectical terminology, stand in contradiction to one another, but they also cannot exist without one another, or, dialectically speaking, they interpenetrate (the law of the interpenetration of the opposites). However, the properties of water that determine its liquid qualities only exist within a certain range of conditions. If these conditions change, water, understood as a system of hydrogen and oxygen atoms, will negate its liquid state (the law of negation of the negation). For example, withdrawing heat energy from hot water by cooling it will cause the atoms within its molecules to assume a rigid order by forming a crystalline lattice. Consequently, water will undergo a qualitative change by becoming a solid, and this discrete, leap-like change will occur as a result of a gradual decrease in the quantity of its heat energy (the law of the transformation of quantity into quality and vice versa). A similar qualitative transformation takes place when heat energy is added to water and it becomes steam. The same basic laws also hold true for living matter but are realized through systems that are infinitely more complex than the simple system of two atoms of hydrogen and one atom of oxygen that make up a water molecule.

The second chapter of this dissertation argues that Vygotsky’s cultural-historical psychology, as well as Leont’ev’s activity theory, represents a reformulation of the dialectical laws for the case of human psychology. This reformulation starts with the Marxist premise that psychological development begins in the material world and follows its general laws. The demands of the physical environment cause living organisms to develop special functions of regulating their own activity. Quantitative changes in the passage of life activities exact new functional responses from the nervous system: the latter become a matter of physical survival. Quantitative elements in activities thus lead to qualitative leaps in psychological development (the law of the
transformation of quantity into quality and vice versa). The main dialectical fact driving human psychological development, according to Vygotsky, consists in the qualitatively new ability to break away from simply reacting to environmental changes (stimulus-response behavior) by mediating one’s activity symbolically, and therefore controlling it in voluntarily. In other words, in human beings the nervous system negates its initial function of providing the capability to react and adjust to the changes in the environment because this capability is slaved to environmental change (the law of negation of the negation). Humans are capable of abstracting from the immediate environmental requirements by withholding an immediate reaction to them and devising a roundabout reaction instead. However, Vygotsky argues dialectically that the psychological or nervous functions typical of less developed living organisms are not superseded and overridden with human-like psychological functions; rather, they are restructured to form new functional systems with novel properties, much like the atoms in water molecules become restructured as water freezes into ice (the law of the interpenetration of the opposites).

Marxist dialectic, on the other hand, is an expression of the laws of thinking because these laws derive from the three dialectical laws that typify all development in nature. The laws of thinking coincide with natural dialectical laws because thinking takes place in the brain, which is a material object that has evolved as part of the material world. As was demonstrated above, Marx and Engels contend that by studying the dialectical laws of nature, in their specific manifestation in human life and history, we also study the dialectical laws of our own analytical activity, and vice versa. In this sense, our thinking is viewed as a facet in the overall development of the material world, as part of its perpetual motion. Still, for analytical purposes it is important to differentiate between Marxist dialectic in its part where it describes the laws of development that pertain to the material world in its entirety and Marxist dialectic viewed as a method of
organizing one’s analytical activity. It is also important, for purposes of this discussion, to find
some distance between the widespread political connotations associated with Marxist philosophy
and the ideas that it has to offer in terms of epistemology – explaining the human way of
knowing. Again, the Marxist dialectical argument that human psychological development is
driven by material activities in the real world is a powerful way to justify the contention that,
given the idea that the human mind is a product of the material reality, its ways of handling and
exploring this reality are fundamentally the same as the most general dialectical laws of nature.
Consequently, proper attention to one’s analytical procedures, bringing them in line with the
dialectical laws has the potential for making new mediating artifacts and developing their
concomitant psychological structures. With this idea in mind, we now move on to describing the
analytical procedure used in the dialectical method.

The dialectical method is designed to address the shortcomings of the canonical scientific method
that become especially salient in disciplines with systemically complex objects of analysis. It will
be easier to understand the relationship of the dialectical approach to the traditional mode of
scientific thinking through a parable cited by Ollman (1993). He recounts the Roman myth about
Cacus, a thieving cave-dwelling monster who once stole a herd of oxen from a nearby village. To
conceal his crime, he made the oxen walk backward into his cave, so their owners would look at
the hoof prints and think that the cattle had been walking out of the cave. Traditional science can
be likened to the villagers, looking at the traces left by oxen and making the wrong assumption
about their whereabouts. The classical scientific method requires that one look for oxen only in
the apparent direction of the traces. So something that leaves traces that conceal its real nature
tends to fall outside the scope of research. The scientific method does not include a mode of
accounting for the relations that underlie the empirical appearances, nor does it attempt to explain
how the psychological constitution of the knower might interact with the method of knowing. Thus it seems reasonable to suppose that the scientific method brackets one’s focus, limiting inquiry to things that can be presented as homogeneous entities, acting on one another in a cause-and-effect framework. Complex relations, on the contrary, appear to act as a stumbling block for traditional science.

As we have noted, the Marxist dialectical method of analysis highlights the inadequacy of the natural scientific approach to research objects that have a complicated internal structure or enter into complex relations with other phenomena. In fact, Marxist dialectic holds that everything in the world exists in the state of constant motion or change. So, on the one hand, Marxist dialectic promises to match the complexity of the objects under investigation with a system of analysis that has change as its premise. On the other hand, the postulate of universal change seems to render the human way of representing reality with the help of static symbolic constructs (reified concepts rather than representations of internal relations that extend beyond the phenomena that they denote) inadequate. To complicate matters even further, we have Vygotsky’s argument about such a mode of representation and communication being part of our fundamental psychological structure. Among other things, Vygotsky’s notion of mediational tools shows unequivocally that linguistic constructs are available in the structure of consciousness. Perhaps, “imbedded” is the wrong word to use in this context because, according to Vygotsky, symbolic mediational tools, and especially language, to a large extent are consciousness. Consequently, we end up with a contradiction: while we need a way to conceptualize change to represent our research objects correctly, our very representational systems and habits force us to see them as “things,” or reified entities, rather than complex sets of relations. The Marxist dialectical method was conceived to overcome this natural inclination of the human mind to reify symbolic constructs. Since words
and images have materiality, the human mind is predisposed to treat them as material objects, thus surreptitiously endowing them with the properties commonly associated with things that have substance of their own. In reality, however, what such symbolic vehicles represent is the process of abstraction — the activity of the human mind during which it parses the observed properties of things that stand out to us and are significant from the standpoint of our activities. It then uses symbolical tools — signs and their systems — to designate these properties summarily. A table, for example, understood as a real material thing, has no table-ness about it. Actual tables in the world come in all shapes, colors, and sizes. However, the human way of accounting for this variety is to denote all tables with one word that refers, first and foremost, to the function, or rather a spectrum of functions, which this object performs or can perform with respect to us, human beings. However, every time we use the word ‘table,’ we are subjected to the temptation to treat it as the physical thing that it has as its referent. By extension, abstract concepts that have no physical referents and denote the content of our own thinking are often treated as material objects as well because our perception of the words used to denote them is the same or similar to that of the words that possess actual referents. The dialectical method of analysis seeks to overcome this tendency by fully acknowledging the process of symbolic abstraction:

In the most explicit statement on the subject, Marx claims that his method starts from the “real concrete” (the world as it presents itself to us) and proceeds through “abstraction” (the intellectual activity of breaking this whole down into the mental units with which we think about it) to the “thought concrete” (the reconstituted and now understood whole present in the mind) (1904, pp. 293-94). The real concrete is simply the world in which we live, in all its complexity. The thought concrete is Marx’s reconstruction of this world in the theories of what has come to be called “Marxism.” The royal road of understanding is said to pass from one to the other through the process of abstraction.

In one sense, the role Marx gives to abstraction is simple recognition of the fact that all thinking about reality begins by breaking it down into manageable parts. Reality may be in one piece when lived, but to be thought about and communicated it must be parcelled out. Our minds can no more swallow the world whole at one sitting than can our stomachs. Everyone then, and not just Marx and Marxists, begins the task of trying to make sense of his or her
surroundings by distinguishing certain features and focusing on and organizing them in ways deemed appropriate.

Likewise, in thinking about any subject, we focus on only some of its qualities and relations. Much that could be included – that may in fact be included in another person’s view or thought, and may on another occasion be included in our own – is left out. The mental activity involved in establishing such boundaries, whether conscious or unconscious – though it is usually an amalgam of both – is the process of abstraction. (Ollman, 1993, pp. 24-25)

Ollman’s observation can be extended by arguing that the purpose of scientific analysis is to fully bring the process of abstraction under conscious control and increase one’s awareness of its impact on the process of thinking and its results. It is this role of the dialectical method of analysis that is important to understand if one is to understand the actual meaning of the cultural-historical approach to human psychology.

Thus, abstraction is central to the human way of knowing, both in everyday life and scientific practice. The ability to see, understand, and be aware of abstraction develops naturally, as one acquires language in the context of practical activity and daily communication. We have likewise determined that, despite the fact that abstraction is the driving force in representation that functions as a psychological mediating tool, we tend to perceive symbolic constructs as things, rather than arbitrary signs denoting abstract relations. This tendency is at odds with the goals and requirements of scientific research and the basic nature of the material world. All these circumstances define a set of prerequisites that an analytical method has to meet in order to be successful. In summary, to yield valid and useful results, the scientific analytical method must (1) keep the researcher conscious of the process of abstraction, to raise this process to the level of conscious awareness, (2) give the researcher a way of controlling the process of abstraction, and (3) help the researcher to expose the relations that underlie his research constructs. The Marxist dialectical method of analysis claims to satisfy all these requirements.
The most revolutionary proposition that comes from the dialectical method of analysis is that all scientific constructs should be treated as relations:

Dialectics restructures our thinking about reality by replacing the common sense notion of “thing,” as something that has a history and has external connections with other things, with notions of “process,” which contains its history and possible futures, and “relation,” which contains as part of what it is its ties with other relations. Nothing that didn’t already exist has been added here. Rather, it is a matter of where and how one draws boundaries and establishes units (the dialectical term is “abstracts”) in which to think about the world. The assumption is that while the qualities we perceive with our five senses actually exists as parts of nature, the conceptual distinctions that tell us where one thing ends and the next begins both in space and across time are social and mental constructs. However great the influence of what the world is on how draw these boundaries, it ultimately we who draw the boundaries, and people coming form different cultures and from different philosophical traditions can draw them differently. (Ollman, 1993, pp. 11-12)

Two facts are worth recapitulating in this connection. Firstly, dialectics teaches us to overcome mechanistic thinking in which concepts, and the phenomena that they stand for, are seen as self-contained thing-like entities that interact with each other much in the same way as pool balls interact on the pool table. Instead, it offers to consider all things as aggregates of relations that not only determine their internal functioning, but also extend outside them and intertwine with the external relations in which these phenomena take part. For example, activity should be understood dialectically not as a reified action, but as a set of relations between the actor or actors and the setting of the activity, including its object, goals, means of performing the desired or required actions, connections with other activities, the psychological structures enabling the activity, etc. In turn, the actor or actors within the activity can be abstracted as a function of its goals related to the psychological structures supporting the activity or any other relations that are significant at a particular instance of the analysis. To see things as sum-totals of relations and their relations with other things as relations of relations that interpenetrate is a departure from the
accepted analytical perspective in which only external relations are examined. By contrast, the
dialectical method of analysis aims to reflect the complexity of the material by making it into the
very center of its paradigm. Secondly, the dialectical method recognizes abstraction as the central
property of the human mind and the inherent limitations that it puts on the scope of our analysis.
The dialectical method sensitizes us to the fact that, due to abstraction, any analysis represents a
specific point of view, to the exclusion of other possible viewpoints and offers a technique of
conscious, reasoned control over the process and effects of abstraction.

As our previous discussion indicates, staying mindful of the relational content of scientific
constructs is not an easy task since the everyday mindset pushes us to do exactly the opposite –
reify symbolic constructs. To understand what kind of change in the mental outlook is implied by
the Marxist dialectical method of analysis, let us examine, for instance, the word “seller” which
often doubles up as a research construct in economics. The usual definition of this term will cite a
person that offers to exchange or exchanges a commodity for money or some other equivalent of
wealth. Marxist dialectic, however, will argue that this definition is reified and incomplete.
Dialectically, what the word “seller” stands for is a relation, in this case between the person
carrying out a sale and the item put up for sale. It is this essential relation between the object of
sale and the person selling it that comprises the actual content of the construct “seller.”

Thus, the Marxist dialectical method of abstraction lifts research constructs from the bounds of
causal frameworks and reinterprets them as sets of relations. In doing so, the method captures the
process of universal change that is posited by the laws of dialectic. Moreover, by focusing on the
relations underlying research constructs, we become aware of the possible connections that lead
outside the constructs in question to other concepts or their collocations. In our example with the
construct “seller” above, we observe that the relations of selling something are possible only if they extend to form a connection with the relations internal to the construct of “buyer.” In other words, the sets of relations within “seller” and “buyer” presuppose each other; they form a dialectical opposition. As such, Marxist dialectic is not unique in recognizing that abstraction presupposes relational properties as the proper content of symbolic constructs. Mechanistic models of traditional science are also abstractions, insofar as they are seen as representations. The crucial difference, however, is that traditional science ignores the relations contained within those abstractions and concentrates only on the external relations between the scientific constructs. Social sciences cannot be satisfied with such an approach because of the complex nature of relations that inhere in the human objects of research.

The Marxist dialectical method of analysis abstracts several types of relations. The first type – relations of opposition – was mentioned above in the sample analysis of the constructs of “buyer” and “seller.” In this simple example, we saw that the relations internal to scientific constructs often penetrate other constructs. In this sense, the notion of dialectical opposition presupposes contrary relations that exist in mutual unity. The second type of relations treated in Marxist dialectic is the relations of quantity and quality. This kind of relations presupposes the idea of development in which quantity becomes quality and, consequently, a temporal component. The relations of contradiction are the third type of dialectical relations. They are defined as mutually exclusive development of interdependent components of the same relation or a set of relations. Finally, the forth type of relations is called metamorphosis and is characterized as a process in which the qualities of some components in a relation transfer to other components in the same relations. Thus, metamorphosis refers to the organic movement of interactions within a complex
whole. These types of dialectical relations will be examined in more detail and in connections with other elements of the dialectical analytical method in the discussion that follows.

Earlier in the discussion abstraction was shown to be the core element of the activity of the human mind aimed as it reflects material reality, while the dialectical method was characterized as a means (a mental tool) of conscious regulation of mental activity during analytical abstraction. Since the awareness of one’s analytical operations lies at heart of the dialectical method, we must now explore the specific method of controlling various aspects of abstraction adopted in Marxist dialectics. Ollman (1993) describes the principal steps in the process of Marxist dialectical as follows:

The process of abstraction has three main aspects or modes, which are also its functions vis à vis the part abstracted on one hand, and the system to which the part belongs and which it in turn helps to shape on the other. That is, the boundary setting and bringing into focus that lies at the core of this process occurs simultaneously in three different, though closely related senses. These senses have to do with extension, level of generality, and vantage point. (Ollman, 1993, p. 39)

From this quotation, we can deduce a number of conscious limitations that the dialectical method imposes on the process of abstraction. The first limitation has to do with determining the bounds of abstraction. We live in a world that appears whole to us, but in order to think or communicate about it we have to break it down into manageable parts. Therefore, Marx is not original in his attention to abstraction since anyone who approaches reality, aiming to describe it, will have to make some distinctions and focus on its certain aspects appropriate to the purpose of the description. We set up boundaries as we respond to the mixture of intersecting relations and influences which make up the world and, in doing so, we commit to certain sets of relations which we ourselves make necessary by introducing classifications or focusing on particular features of our reality. To give an example, we can abstract writing as a set of relations between
symbols. Setting abstraction boundaries in this way will call for structural approaches to studying the textual side of writing and play down those of its facets that have to do with communication, representation, etc. Alternatively, we could abstract writing to include the writer and his audience, which will prompt us to look for a methodology that accounts best for the way in which writing integrates various human activities and serves as a medium of communication. Marx’s method of dialectical abstraction is in itself an abstraction of other abstractions rooted in other bodies of theoretical thought. The term “abstraction” used in the dialectical sense is a bit confusing to grasp because we intuitively recognize this process as familiar, but are simultaneously surprised at the depth of its implications when we consider it closely. Furthermore, Marx not only uses the construct of abstraction to refer to mental activity and its results, but also calls on it to expose skewed concepts, such as “freedom,” that arise from capitalist relations and make up capitalist ideology. Finally, Marx’s abstraction has a fourth sense in which it covers the outward manifestations of the capitalist order whose real meaning and significance appears hidden and disconnected from material representation. Understood in this way, abstraction represents symbolic constructs that cover up the real state of affairs in the society:

Taken in the third sense, abstractions are the basic unit of ideology, the inescapable ideational result of living and working in an alienated society. “Freedom,” for example, is said to be such an abstraction whenever we remove the real individual from “the conditions of existence within which these individuals enter into contact” (1973, p. 164). Omitting the conditions that make freedom possible (or impossible) – including the real alternatives available, the role of money, the socialization of the person choosing, etc. – from the meaning of “freedom” leaves a notion that can only distort and obfuscate even that part of reality it sets out to convey. A lot of Marx’s criticism of ideology makes use of this sense of “abstraction,” as when he says that people in capitalist society are “ruled by abstractions” (1973, p. 164). Such remarks, of which there are a great many in his writings, however, must not keep us from seeing that Marx also abstracts in the first sense given above and, like everyone else, thinks with abstractions in the second sense, and that the particular way in which he does both goes a long way in accounting for the distinctive character of Marxism. (Ollman, 1993, p. 26)
The second limitation is derived from the idea that the investigated relations are always abstracted from a certain standpoint that, in turn, implies its own relations. We have said that abstraction always implies drawing classificatory and essential boundaries in order to single out the formative features that define the phenomena under investigation. The dialectical method of analysis allows for a temporary focus on a part of their internal relations, denoting a moment in the process of their unfolding. This part brings out the central function or the most distinctive appearance of the relations in question and usually corresponds to the concept by which we recognize it which we use to refer to it in daily life. However, as a rule, we use such concepts as if they were referring to static and immutable entities. Marx, on the contrary, holds that for us to be able to grasp the systemic connections inherent in the essential relations of our world, they have to be incorporated into the very abstractions in which we think about them in a conscious fashion. Any other approach, therefore, will necessarily be mechanistic if it does not offer a way of accounting for such connections. Thus, the dialectical method of analysis abstracts not things but sets of processes, representing relations, and alternates between various conceptual snapshots of particular configurations of these relations. Within each instance of dialectical analysis, there is a possibility to reinterpret a particular set of relations by unpacking its constituent relations as products of the relations that extend beyond the set of relations in question. This view is in sharp contrast to the customary distinction between things or world phenomena and the relations among them in which they are viewed separately. This logical dichotomy is rejected in the dialectical approach that represents concepts as relations, extending outside their boundaries in space and time. Each time an aspect of these relations is brought to the fore during the analysis, the analytical units that emerge can be readily reinterpreted as representing different relations. This is done to acknowledge the fact that no developmental process within an organic system can be said to take precedence over or have a causal effect on others because all such processes are mutually
dependent. The notion of causal determinacy is only used to show that, at times, certain facets of an organic system begin to have more effect on its overall functioning. The shifts in analytical focus during dialectical analysis occur to reflect such changes. This idea may sound a bit complicated, but it will become clearer when the two stages of dialectical analysis – determining the level of generality of the research constructs, manipulating the level of conceptual extension on this level of generality – will be discussed in more detail. For the moment, we will conclude with the remark that Marxist dialectic taken as a psychological tool of thinking is applicable to any field of scientific investigation. However, we do not mean to say that it somehow dictates its actual content; what it does direct is the way in which we conceptualize this content and model the relations within it to arrive at a better understanding of the phenomena that form the object of our studies.

So far we have determined that the dialectical method of analysis focuses on the relational content of the scientific constructs which otherwise tend to be perceived as reified entities. We have also come to realize that a certain mental procedure is required to carry out such analysis for relations and called upon Ollman’s (1993) outline of this procedure. Let us now consider these components of the dialectical method of analysis in more detail. The first element of dialectical analysis establishes the level of generality that contains the relations denoted by the scientific construct under analysis. Marx introduces seven levels of generality: the individual person, the level of social activities, the economic formation, the level of class society considered in conjunction with the division of labor, the level of human society, the level of the animal world, and the level of the material world:

It is important, too, to underline that all the human and other qualities … are present simultaneously and are equally real, but that they can only be perceived and therefore studied when the level of generality on which they fall has been brought into focus. This is similar to what occurs in the natural sciences, where
phenomena are abstracted on the basis of their biological or chemical or atomic properties. All such properties exist together, but one cannot see or study them at the same time. The significance of this observation is evident when we consider that all the problems from which we suffer and everything that goes into solving them or keeping them from being solved is made up of qualities that can only be brought into focus on one or another of these different levels of generality. Unfolding as they do over time, these qualities can also be viewed as movements or pressures of one sort or another – whether organized into tendencies, metamorphoses, contradictions, etc. – that taken together pretty well determine our existence. Consequently, it is essential, in order to understand any particular problem to abstract a level of generality that brings the characteristics chiefly responsible for the problem into focus. (Ollman, 1993, pp. 56-57)

It is obvious that adjusting the level of generality ensures a systematic connection between research constructs and the object of study. Its goal is to set the boundaries of abstractions introduced by the constructs in such a way that they correspond to the essential internal relations of the actual phenomena in the world. In other words, zeroing in on the appropriate level of generality helps to identify the essential features of the object of study that define its nature.

Additionally, being mindful of the generality level used to dissect the relations found internally in scientific constructs prevents misinterpretations of relations by changing the level of abstraction inadvertently, under the misleading influence of the symbolic constructs that denote them. The relations established on one level of generality for a given construct do not translate into the same configurations of relations on other levels; these relations are transformed, changing the relational content of the original construct.

The second component of the dialectical analytical procedure is extension. Typically, the extension of a specific scientific construct deals with the determination of time and space in which the relations denoted by the construct are realized. We have already touched upon the four dimensions or types of internal relations that characterize scientific constructs in time and space: identity/difference, quantity/quality, contradiction, and metamorphosis. All these dimensions can
delineate the chosen unit of analysis in the totality of its internal relations, developing across time. Also, accessing the totality of an organic system through the determination of extension of the scientific constructs used to represent it does not imply arbitrariness because the concepts whose extension is being determined represent the essential relations within the system. Therefore, the amount of arbitrariness present in dialectical analysis does not exceed the arbitrariness inherent in basic fact that every opinion is necessarily somebody’s opinion.

Finally, the third element of dialectical analysis has to do with the point of view or vantage point from which the relations within and between constructs are treated. The idea of a vantage point is fairly easy to comprehend since we all engage in attending to other people’s viewpoints or producing our own. However, the notion of vantage point in dialectical analysis refers to the perspective necessary to differentiate between essential and nonessential internal relations and then use the results of this analysis to reconstruct the larger system to which these relations belong. Moreover, whenever a relation is treated analytically, the dialectical vantage point shifts between the parts of the relations that form its essential connections to put each of them in relief against the background of the other members of the relational connection. In society, a vantage point is something that is always present in the nature of habitual abstractions that a person performs from his immediate life conditions, and thus has deep psychological significance. When applied in social studies, the dialectical method of analysis uses the concept of vantage point to reconstruct the passage of such thinking to uncover the structural social relations that crystallize around it. Yet, even though we all assume points of view with respect to different issues, they are only rarely raised to the level of dialectical vantage points because we derive these viewpoints from the ready-made distinctions provided by our social milieu. Marx identifies these mental patterns as ideology. Typically, ideological pressures inhibit our ability to abstract new vantage
points, and it is exactly where the procedure of the dialectical method of analysis provides comes to our aid, serving as a mediational structure for our analytical activities.

As we remarked before, dialectical abstraction focuses on the extension and level of generality of concepts simultaneously and regards these two properties of concepts as complimentary. Of course, when we proclaim selectivity in our analytical method that is enabled by abstraction and subsequent manipulation of the resulting constructs, we do not reject the initial premise that all parts of reality are interconnected. The aim of dialectical analysis, however, is to get at the most essential constitutive relations that shed light on the nature of the research problem at hand. It can be said that the dialectical method lets the most important aspects of the analyzed relations crystallize, as the analysis unfolds. For instance, if we choose to explore the relationship between the concept of literacy and the concept of mental development, we should begin by determining the extension of both concepts in space and time. The extension of the concept of literacy may be set as wide as society in general or as narrow as a certain set of capabilities shown by a particular person. In the former case, the relations embodied by the construct of literacy ought to include descriptions of the mode of life typical of the society in question, focusing on those of its properties that give it a particular quality (for example, economic relations of production, educational relations, artistic expression, etc.). It is obvious that literacy abstracted in this way for a patriarchal agrarian or nomadic society will differ in significant ways from literacy analyzed as relations within an industrial society if during this analysis we use the concept of mental development as a vantage point. If we change the vantage point to focus the analysis on mental development, we will have to manipulate both the extension and the level of generality simultaneously (a particular person with a specific background (time extension) vs. a generalized individual whose psychological development is viewed phenotypically, i.e. as an entire species).
Viewed from the vantage point of literacy, mental development of a separate individual reveals a qualitatively different set of relations as opposed to the relations embedded in the same concept when it refers psychological relations that are species-specific. Furthermore, in the latter case the addition of the extension of time brings into focus the historical lines of development for the entire human species and the histories of particular societies. It is quite possible to alternate between the above-mentioned choices of vantage points to keep highlighting the significant internal relations denoted by the opposing concept in the dichotomy under analysis.

Finally, we should keep it in mind that the dialectical method does not presuppose a sequence of stages: “In practice, these three decisions (really, three aspects of the same decision) as to extension, level of generality, and vantage point are usually made together and their effects are immediate, though on any given occasion one or another of them may appear to dominate” (Ollman, 1993, p. 69). When we abstract social relations under the designation of the term “culture,” we usually mean culture-in-general, that is, a construct that belongs on the fifth level of dialectical generality – the human society. The typical sets of relations denotes by this construct include the generic ways in which people relate to one another and also collectively relate to the material circumstances of their lives. The use of the term “culture” in this sense is adequate, but what would happen if we used it to analyze the economic relations within a culture? Such a change in the level of generality to that of the economic formation would alter the configuration of relations in our analytical focus. If we made this shift, we would have to put all human relations to the material world into the background with the exception of relations of production. Similarly, interpersonal relations would have to be considered only in those of their aspects that pertain to material production. Thus, as we change the level of generality for the construct of culture, we observe a dramatic shift in its essential internal relations. The relational content of this
construct will change even more if our analysis goes deeper into the details of its internal relations.

A few concluding remarks should be made about the concept of dialectical tension found the schematic representation of the Marxist dialectical method of analysis. This concept is usually understood as emblematic of the tension created by the counteracting forces in nature. Yet, since we are considering Marxist dialectic primarily as a mental tool, or a mode of thinking, it might be appropriate to add a new interpretation of the term. In this novel sense, we could use the construct of dialectical tension to refer to the experience of psychological tension that comes from trying to overcome the tendency to reify symbolic constructs. The same kinds of tension should be felt while analyzing the internal relations denoted by concepts. Additional tension arises from the attempt to see those relations as including their past histories as well as containing preconditions of future change. In simpler terms, dialectical tension is the subjective perception of the mental strain involved in the attempt to overcome the tendency of the human mind to freeze reality in immutable concepts and view these concepts as material objects because their symbolic representations have material properties and are psychologically real.

Once the research question is formulated in general terms, the dialectical analysis of the problem at hand can begin at the level of the unified whole, in the empirical present. This means that we set out to determine the pertinent research constructs, the level of generality appropriate for the research problem, and the extension of those constructs. As we describe the internal relations subsumed by the key research constructs, we can start the process of determining their extension. Simultaneously, we should attempt to rank the internal relations, trying to determine which of them might have a formative impact on the phenomena that are the object of our study. Thus,
instead of trying to find out how the phenomena denoted by the constructs interact in terms of cause-and-effect relations, we make our analysis move inwards in order to characterize the relations that are internal to the main construct in our investigation. The dimensions of these relations, as prescribed by the general outline of the dialectical method, are identity/difference, quantity/quality, contradiction as a unity of opposites, and metamorphosis. All this time, we should make a continuous effort to refrain from seeing our research constructs as things governed by formal logical rules of cause and effect logic because failure to do so will spell an end to a systemic explanation for our object of inquiry.

As the properties of internal relations within the constructs are being specified, we should focus our attention on those of them that appear to be contradictory. In other words, we must concentrate on the central problems in the internal relations of the systems of relations denoted by our constructs, as well as the larger systems of relations emerging among the constructs. For example, one of the central dialectical contradictions in literacy studies concerns the degree to which literate skills are transferable from educational setting to the workplace. Obviously, in this general form the constructs of educational and workplace literacy function at a level of generality that does not allow for determining their extensions that would account for specific skills and their developmental mechanisms. At the same time, these constructs denote complimentary dialectical relations whereby educational work and workplace practice are closely interconnected: educational activities are always conducted with subsequent practical application in mind, while the construct of workplace skills implies the need for prior preparation. This essential contradiction and complementariness will not disappear if we continue to specify the concrete relations, underlying these constructs, focusing on a specific field of study or vocational practice. For instance, if we deepen our focus by bringing forth the construct of writing as part of these
relations, we may discover that the essential functions of writing activities in educational settings do not always correlate with the relations, underlying the same functions of writing in the workplace. Workplace writing tends to function as a mediating tool used to attain goals that are external to the writing activities. In contrast, writing at school seen from the vantage point of workplace relations acts both as the goal of learning activity (written assignments) and its means. Student writing expresses different sets of relations between learners and educators compared to those found in workplace activities even though certain parallels may be found. Recent attempts to relocate learning out of the classroom and into the area of apprenticeship and community engagements reveal the desire to resolve this contradiction productively by narrowing the gap between formal education and workplace literacy. The dialectical method is a useful analytical framework that could help to address the specific aspects of this contradiction between various educational areas and related workplace activities.

Of course, contradictions are easier to spot in inanimate systems than in social ones. Yet, a careful exploration of internal relations within social research constructs and the relations that are present in the areas of study could still yield interesting leads. Take, for example, the much touted construct “globalization.” Much like the construct of “culture,” “globalization” includes both relations of communication and relations of production. Among other things, the relations of communication presuppose that countries become more open, by lifting border restrictions for trade and travel. The lifting of the barriers increases the influence of multinational corporations that do business in many countries simultaneously. Thus we arrive at a possible contradiction between the economic ties represented by relations within and among multinational corporations and the political interests of sovereign states. It is an important contradiction to consider if we want to explain the current socio-economic developments in the world.
Whenever the oppositions in internal relations implied by scientific constructs suggest tradeoffs, we should use these tradeoffs to formulate internal contradictions that may become the sources of change. We should also pay attention to the changes in the circumstances that are external to the phenomena described by our research constructs. As these external conditions alter, they bring about changes in the internal relations within the phenomena under investigation. Consequently, the balance of inherent oppositions within them changes as well, which may give rise to contradictions. If our analysis of the contradictions is based solely on formal logic, it would require us to see their constitutive parts as mutually exclusive, i.e. to approach them with an “either-or” mindset. We can now make a strong case for the fact that inherent contradictions, giving rise to change, are nearly impossible to trace without resorting to Marxist dialectic.

A few words should be said about the part of dialectical analysis that examines how quantitative relations transition into qualitative. Let us, yet once again, mention Engels’s example of water for the sake of clarity: water molecules consist of two atoms of hydrogen and one atom of oxygen, but the properties of water have nothing to do with the properties of its constituent chemical elements. They are qualitatively different. Vygotsky’s construct of mediation is a more appropriate illustration of qualitative changes that govern human psychological development. Recall that his reasoning proceeded from the observation that, despite sharing the same natural environment with other forms of life, human beings display markedly dissimilar behavior. Vygotsky concluded that there must be something different in the relation of people to their material circumstances of life that distinguishes their psyche from animal psychology. He discovered that human psychological processes are mediated with the help of symbolic tools that sever the direct psychological connection to the environment and, in doing so, put an end to
purely instinctive behavior. Furthermore, Vygotsky traced the roots of this qualitative transition to material activities that make use of material tools in order to modify the environment to serve human interests. Qualitative changes are often signaled by the appearance of a new concept used to designate it.

Figure 4 below is a schematic representation of the Marxist dialectical method of analysis.

Lastly, we should not approach dialectical analysis with the preconceived notion of progress. Qualitative changes can bring about both increases and decreases of complexity and order. Thermodynamics teaches us that in nature the overall tendency is toward diminishing organization, not progress, and that maintaining complex organization always requires
expenditures of energy. Similarly, we should remember that the Marxist dialectical method of analysis tries to avoid assuming a predetermined purpose, underlying historical development. It merely helps us to look for the preconditions that could have led to the present state of affairs in the area that we chose for our inquiry. It is for this reason that the starting point in dialectical analysis is set in the present. We do not have immediate access to the past and the future; therefore, grounding the analysis in these temporal perspectives puts us on the slippery surface of conjecture.

The abovementioned reasons prompt the idea that in the dialectical method of analysis observation and deduction happen simultaneously. We can repeat the cycles of observation and deduction as many times as necessary to clarify the relations that are internal to the object of study and also exist as the conditions of its environment. As we do so, we will notice that what we have previously perceived to be relations of cause and effect begin to penetrate each other. We will start to see causes of things to be subsumed by the internal relations within those things. In this fashion, a new perception of the construct of cause and effect will emerge that will emphasize reciprocity and interdependence. Also, we will see some factors in the relations we are exploring come to the fore and assume the leading role in the existence of phenomena under investigation:

With the philosophy of internal relations, a major problem arises when one wants to stress a particular aspect or temporal segment of this ongoing interaction without seeming to deny or trivialize its other elements. One of the main ways Marx tries to resolve this problem is with the notion of precondition and result. Like contradiction, metamorphosis, and quantity/quality change – though less well known than any of these – the notion precondition and result enables Marx to pursue his studies more effectively by bringing certain aspects of change and interaction into sharper focus. Specifically, precondition and result is a double movement that processes in mutual interaction undergo in becoming both effects and makers of each other’s effect simultaneously. For this, the two must be viewed dynamically (it is a matter of becoming a precondition and becoming a
result), and organically (each process only takes place in and through the other). (Ollman, 1993, p. 134)

In other words, preconditions and results should be viewed as facets of the same process, not as independent processes or phenomena. Any result contains its own preconditions as parts of its structure, whereas any precondition already implicates the future result. Dialectical analysis does not separate them, but brings them into conceptual focus alternately, never losing sight of the fact that they are intrinsic part of the phenomenon under investigation that is being conceptually reconstructed in its entirety.

From the preceding description, it may seem that the Marxist dialectical method of analysis gives the researcher an unlimited freedom in interpreting and reinterpreting the internal relations within the constructs by changing the levels of generality and their extension at will. To a certain degree this is true, but as we have pointed out, every such change in the analytical framework should be accounted for because it alters the functional configuration of the relations under analysis. This is clear from the analysis of the concepts of literacy and mental development that was given earlier. Furthermore, Marx’s remark implies that experiments or observations should be conducted after each round of analytical abstraction to check if the essential relations within and among the research constructs have been identified properly.

Let us now summarize the nodal points in the procedure of dialectical analysis:

1) Dialectical analysis begins in the present.

2) Dialectical analysis begins by choosing research constructs that abstract whole systems of relations that correspond to the object of inquiry. We then concretize the relations implied by each construct without dissecting organic systems into sums of parts.
3) We then check for the levels of generality of the constructs under analysis. We prefer to use the construct with the maximum level of generality possible because we do not want to lose sight of all potential relations within and around the phenomena that we are investigating. Overall, the more complex the analyzed relations seem to be, the broader abstractions we will need.

4) We gradually begin to group the relations we have been identifying, trying to understand which of them are essential for the basic existence of the phenomena at hand (their preconditions).

5) As we define the levels of generality for our constructs through concretizing their internal relations, we start looking for the proper temporal and spatial extension for each construct. The temporal extension will permit us to conceptualize the internal relations historically, i.e. represent them as a path of development. The spatial extension will consist in accounting for the external conditions that bring about the relations we are examining.

6) As some of the internal relations begin to stand out as preconditions for the present state of affairs reflected by our research constructs, we may begin varying the vantage point, by taking a look at the relations that are preconditions from the standpoint of the relations which are results and vice versa. However, we also keep in mind that results and their preconditions come about simultaneously, in the sense that results contain their own preconditions as part of internal relations. This rather nuanced mental conception is the dialectical equivalent of cause-and-effect relations.

7) Following Marx, we should try to differentiate between suspended presuppositions and major preconditions. Major preconditions are relations required both for the creation and the maintenance of the next stage in development; suspended preconditions, however, are
only needed as conditions for the next stage of development but they play no part in its functioning once it is operational.

8) At all times we should remember to keep explaining the relations of necessity backwards. Marxist dialectics always looks for conditions for the development of phenomena within the relations that typify their contemporary state, not the other way round.

9) Still, we can tentatively regard some internal relations in the object of our investigations as possible preconditions for future developments. To increase the validity of our prediction, we should focus our attention on the relations that constitute active dialectical contradictions.

By now, the advantages of the Marxist dialectical method of analysis in research situations in which we have to explain complex systemic relations have become clear. However, we do not mean to argue that the dialectical analysis should replace the canonical scientific method. While traditional scientific explanations based on causal connections do well in areas whose essential internal relations can be approximated in this fashion, Marxist dialectics can come to their aid in situations in which we need to account for an additional layer of complexity represented by the traditional scientific constructs. We see that, after all, such a synthesis of these two seemingly contradictory methods of inquiry is, in and of itself, dialectical. Dialectics enters the scientific method of analysis at the point of choosing a unit of analysis – the central conceptual representation or construct whose task is to reveal the essential properties of the phenomenon or phenomena under investigation.
The choice of the unit of analysis is probably the most difficult problem facing a researcher who studies human behavior. While discussing the dialectical method of analysis, we showed that the method of traditional science brought to bear on social research produces results that tend to belong to the mechanistic worldview. Most problems arise at the stage of choosing research constructs and then interpreting their content. We have mentioned elsewhere that Vygotsky attributed special importance to these questions, giving much effort to the choice and justification of his research construct or, as he called them, units of analysis. He proceeded from the same dialectical assumption that all scientific construct should be analyzed as sets of relations and argued that this could be the only way to illuminate human psychological development. Before we retrace his steps in applying the dialectical method of analysis to psychological studies, let us spend some time, trying to see what the method has to give us if we were to begin the studies of human psychological functioning from scratch. In other words, we will try to develop the precepts of the dialectical analytical procedure into an argument about the appropriate unit or units of analysis for analyzing human behavior. Yet human behavior seems to be too broad a category, so we will focus on writing and literacy as the construct of more immediate interest to us and, by and large, far more manageable.

Dialectical analysis begins in the present, by describing the current state of affairs. To achieve such a description, one must place the scientific constructs onto the levels of generality that are
appropriate for the study at hand, while making sure that the constructs themselves are sufficiently abstract to accommodate all significant internal relations that are relevant to the object of study. Let us examine, one after another, Marx’s seven levels of generality in order to highlight those of them that may be productive for discussing writing and literacy, starting with the most general levels. First is the level of material nature. It may not be directly relevant for our intended study but we should keep it in mind as representative of the most abstract set of conditions in which human psychological functioning takes place. Next is the level of the animal world which seems to be interesting as a source of contrast for human psychology and activities. As we remember, Vygotsky used this level of generality as a backdrop against which he explained the specificity of human functioning. However, again we have to admit that for our purposes this level of generality is not so promising. The level of human society, however, is very relevant because writing and literacy seem to represent some of the key relations that we usually abstract as the content of the construct “human society.” But we should remember that our discussion of literacy and writing at this level of generality will have only limited applicability to lower levels of generality. We enter this caveat because, as we have ascertained earlier, changes in the level of generality reshape the configuration of the relations that underlie our analytical constructs. The levels of class society (division of labor) and economic formation also seem to be interesting because they could provide valuable insights into how writing and literacy function as economic factors and form relations that constitute the construct “division of labor.” Again, we make the same mental note that arguments about writing and literacy at these levels of generality cannot be easily extrapolated to other levels, due to the peculiar nature of relations that will comprise the content of the constructs of literacy and writing if we discuss them as relations of production. The remaining two levels, the level of social activities and the level of the individual,
are of most interest to us. Along with the level of human society, these two levels seem to contain
the majority of scientific discussions about the nature of writing and literacy.

The dialectical method of analysis favors constructs with a high level of abstractness. Because of
this, our constructs of literacy and writing are convenient points of departure which we could later
concretize by analyzing their internal relations and, if need be, introducing additional constructs.
Since we are conducting this analysis for the sake of illustration, let us focus even further on the
construct of writing, while noting that it is likely to be subsumed by the construct of literacy. Of
course, the resolution of the claim about the hierarchical nature of the relationship between the
constructs of literacy and writing will require additional analysis, which is not our purpose here.

Let us now take a look at what relations the construct of writing could signify on the level of the
individual. If we abstract writing to the level of the individual, we will find ourselves mostly
concerned with relations between people and material artifacts. By observing this activity in real
life, we will notice that it differs little from other activities that involve making physical changes
in the environment. We will also note a peculiar nature of tools used in writing activity and a
relationship with language. As is the case with other human activities, writing has a beginning
and an end, and consists of certain physical actions. As we observe someone writing, we also
become aware of signs of inner activity that occurs within the person. The person writing in front
of us seems to be directing the writing at himself because we do not observe any immediate
influence that writing may or may not produce on other people. Thus, we arrive at a point that
marks the empirical separation of writing into inner and outer activities that appear to exist in
unity. Since on this level of generality writing is observed as an individual activity, the unity of
its internal and external sides can only exist if the relationship between them is reciprocal. Thus,
we come to the conclusion that the tools used while doing the physical part of writing and its material results are somehow reflected in the inner side of the activity that exists within the individual. We conclude that the construct of writing refers to relations that obtain between individual psychological functioning and the material artifacts used in writing activity:

The higher form (of written language – my addition), which we touch in passing, consists in the fact that the written language of the second order becomes again symbolism of the first order. The initial written symbols serve as a sign of verbal symbols. Understanding written language is done though oral speech, but gradually this path is shortened, the intermediate link in the form of oral speech drops away. And written language becomes a direct symbol just understandable as oral speech. One has only to imagine what an enormous break occurs in the whole cultural development of the child due to the mastery of written language, due to the possibility of reading and consequently to being enriched by everything that human genius has created in the sphere of the written word in order to understand the decisive moment experienced by the child in the discovery of writing. (Vygotsky, 1987, vol. 4, p. 142)

Logically then, the role of symbolic artifacts in mediating the reciprocal influence of the writer on himself will help us to understand the structure of psychological processes that accompany writing.

From this brief account we can see that the very logic of the analysis is leading us down the path of looking for the roots of internal relations within the construct of writing in the nature of artifacts used in writing activity. We have come to the brink of postulating the social nature of writing activity just by following the rules of dialectic – an assumption that will prove correct if we discover similar features of writing by observing how different people engage in it in real life. We have also found a candidate for the main units of analysis (key research constructs) that, quite obviously, should have something to do with the artifacts used in writing. We adopt the latter assumption because we have just shown that they might hold the key to deciphering the nature of the relations that exist within and between the inner (psychological) and the outer (material) sides of writing activity.
We have not said anything yet about temporal and spatial extension for our construct of writing, or the emerging unit of analysis. For this, we would have to continue enriching our analysis with more details, but we have stopped short of it because, after all, this analysis is only an illustration of how the dialectical method could be applied in research practice. However, by postulating the inner and the outer side of writing activity from observing people writing, we already have two vantage points from which to keep adding such details. As we argued above, writing activity refers to relations between the writer and the text he is producing; relations of this activity to other people are mediated by the psychological processes of the writer. This implies that the structure of relations within its outer side should in some way correspond to the psychological structures of its inner side. Then, the outer side makes for the natural initial vantage point from which one could begin to analyze the internal psychological relations within the individual that are involved in it. As this analysis progresses, we could reverse our point of view and make what we will have found out about the psychological side of writing into our new vantage point. From it we could take a second look at the relations in the outer aspects of writing activity to further specify which of them have structural psychological implications. Also, we should remember to manipulate our level of abstraction by alternating between higher abstraction (theoretical discussion of the relevant constructs and the unit of analysis) and the lower level of abstraction (observations and experiments, as appropriate for the theoretical claims we make). Such cycles will result in the gradual refining of our theoretical framework.

Our brief dialectical sketch, despite being limited in scope, already gives us grounds to believe that the unit of analysis appropriate for the study of writing and literacy are to be found in the nature of the artifacts that are parts of the corresponding activities. When we say “the nature” of
the artifacts in question, we mean their peculiar reciprocal relation to the psychological functioning of people who make use or produce them. In other words, we have repeated Vygotsky’s discovery of the role of symbolic mediating tools in human psychological functioning just by applying the most general principles of dialectical analysis to the construct of the writing situation that we, in a thought experiment, had abstracted from the real observable writing activities.

Given the overall slant of our dialectical discussion, what could be said about argument on writing and literacy advanced on higher levels of generality, for example on the level of human society (e.g. Gelb (1963), Olson (1994))? How could we delimit the scope of relations subsumed by the constructs of literacy and writing on these levels to satisfy the requirements of dialectical analysis? Obviously, from what we have just established for the level of the individual, the most likely link between it and the level of human society ought to be present in the relations presupposed by the artifacts used in literate activities. However, dialectically we cannot expect that these relations, both material and rooted in individual psychology, will be present in the unchanged form on higher levels of generality. At best, we could hope to find certain parallels between these sets of relations, but hardly a direct correspondence because the internal relations on the level of society, especially taken in their historical extension, have their own conditions and history of development. This idea will become clearer if we set up our research question as follows: does writing activity make certain psychological structures within the individual possible in the same way as it makes possible certain structural relations in the society, that is, within a large group of individuals that may or may not be in immediate contact? Just by formulating the question in such a manner, we understand that we are dealing with qualitatively different relations in each case.
To summarize our brief theoretical excursion with the help of the dialectical method of analysis, we can say that in the studies of writing and literacy we will have to keep our units of analysis localized on the levels of generality referring to the individual and human activities. However, since human activities represent a higher level of abstraction compared to that of the level of the individual, the units of analysis would have to gravitate toward the latter because, with respect to the construct of the individual, the construct of activity represents an abstraction of abstraction (the construct of the individual is an abstraction of the first order and the construct of activity abstracts further away from the level of concrete experience and onto a higher level of generality). Another benefit of units of analysis grounded at the level of individual people consists in the access to empirical data, so that we can alternate between rounds of theoretical abstraction and empirical studies, checking whether the relations we are describing constitute the essential nature of the phenomena under analysis. Finally, keeping the units of analysis at the level of generality referring to a single person is the only way to focus on the unity of opposition between individual psyche and its social and material manifestations that can be abstracted not just on this level, but also on higher levels of generality, such as that of the economic formation or the human society. Yet when Marx and Engels declared the primacy of the materialist approach to the nature of man, they meant to say that the relations of higher generality represented by such constructs as society would be irrelevant from the scientific point of view if we did not have individual people congregating to form those relations. Thus the starting and ending point of our explanations should rest with the individual, and the way he deals with and shapes his environment. This is not to say that we are negating the explanations on higher levels of generality; on the contrary, we affirm that they have significant explanatory value. But we also argue, based on dialectical principles of analysis, that such explanations are essentially
abstractions of abstractions and, as such, should be treated with extreme care. Likewise, we alert ourselves to the fact that, once we reach higher levels of generality in our abstractions, we can no longer afford downshifting to lower levels of generality without accounting for the changes in the internal relations underpinning our research constructs.

Inattention to the role of Marxist dialectics in Lev Vygotsky’s cultural-historical psychology: Sylvia Scribner’s account

We will now be examining Lev Vygotsky’s use of the Marxist dialectical method of analysis while elaborating cultural-historical theory of human psychology. It is very gratifying to note that we can find a very adequate treatment of the cornerstone principles of Vygotsky’s theoretical position in the article titled “Vygotsky’s uses of history” by Sylvia Scribner (1997, pp. 241-265). We should remark right away that, although Scribner duly cites Vygotsky’s Marxist orientation, her explanations do not make the connection between this methodology and the concrete analytical steps in Vygotsky’s inquiry. Still, as far as the subject matter of Vygotsky’s psychology is concerned, Scribner’s presentation is nearly flawless. As such, it is an excellent vantage point from which we can try to develop an understanding of the role that the dialectical method plays in cultural-historical psychology. We devoted the beginning of this chapter to illustrating, in broad terms, how Marxist dialects could be brought to bear on the analysis of human functioning, abstracted at different levels of generality. We showed how such abstractions of essential relations denoted by our research constructs could be analyzed in relations to empirical data and how the results of this analysis could be looked at in different ways by altering the vantage point. We deliberately kept references to Marx, Engels, and Vygotsky to a minimum to demonstrate how the dialectical method of analysis could be applied without prior knowledge of the
conclusions that have already been made with the help of it. Of course, such an exercise was only meant to serve as an illustration for the main discussion of the uses of cultural-historical psychology in writing and literacy studies and the possible sources of misinterpretations in this connection.

We will now attempt to demonstrate where Scribner’s account of Vygotsky comes short on methodology while remaining strong on the specifics of his theory. We make the claim about Scribner’s lack of awareness about the importance of the Marxist dialectical method of analysis based on her remark that runs as follows: “What follows is my logical reconstruction of Vygotsky’s steps in building a method for the study of formation of cultural behavior. (We have no way of knowing, of course, whether or not the logical order coincided with the chronological order in which he actually carried out the work and developed his ideas)” (Scribner, 1997, p. 255). We find similar remarks by Scribner elsewhere in the article in which she refers to Vygotsky’s individual genius where she ought to have pointed out his strict adherence to the dialectical method. At this point we invite the reader to keep referring to our illustration of the dialectical analytical method in action at the beginning of this chapter to see the parallelism between what follows from making dialectical hypotheses about human psychology and the backbone of Vygotsky’s theoretical argument in Scribner’s presentation. In the course of such cross-comparisons, we should confirm our initial contention that Vygotsky’s framework forms an extension of Marxist dialectical method realized as a unity of general internal laws found in the object of analysis and the method of thinking used to characterize these laws. Conversely, we are trying to verify whether Vygotsky’s theory equals Marxist dialectic, enhanced with psychological details. We resort to the dialectical method ourselves to explain Scribner’s choice of the
construct of history as the main unit of analysis in her exploration of the Vygotskian paradigm.

Consider the following:

Singling out general history as the foundation for the entire theoretical edifice seems consistent with Vygotsky’s own view of the enterprise. He begins “The Development of Higher Mental Functions” with a quotation from Engels: “The eternal laws of nature to an ever greater extent are changing into laws of history.” Vygotsky invites us to read his work as the unraveling of the mechanisms by which this transformation from the natural to the historical takes place in the phenomena of mental life. (Scribner, 1997, p. 243)

Scribner is correct in arguing that Vygotsky’s project seeks to explain how natural conditions of life give rise to psychological functioning (coupled to practical activities) whose development makes up human history. We argued exactly this when we tried to use the dialectical method from scratch. We cannot help noticing, however, that her explanation is a bit mystifying as far as the relational content of the construct of history is concerned. Again, Scribner is not heeding the premise that all scientific constructs stand for relations because she is not using the dialectical method to guide her analysis. Apparently, Scribner is calling on the notion of history to indicate that Vygotsky examines human psychological functions from the standpoint of their development, but in her interpretation the construct of history sounds more like an external label attached by Vygotsky to an otherwise complete theory than a sign standing for organic relations undergoing certain kinds of development. What we mean by this statement should become clearer as we investigate the details of Scribner’s account of Vygotsky’s theory in comparison with our own elaboration of the dialectical method.

To reiterate, dialectical analysis begins with abstractions at the highest level of generality that are used to specify the most general relations, making up the phenomena under study, and the conditions for the existence of these phenomena. Scribner notes Vygotsky’s frequent appeals to Engels’s idea about the laws of nature that describe the foundation of human history. Vygotsky
interprets it as a reason to argue that we should look for the roots of psychological development in the immediate material conditions of people’s life. Scribner also records that Vygotsky’s analysis begins in the contemporary perspective, in the present state of psychological functions accessible to observation. Again, we see that her description faithfully reflects Vygotsky’s use of the dialectical method of analysis without knowledge of its specifics. Localizing the analysis in the present prompted Vygotsky to review key psychological studies that bear on his own ideas. His review revealed a conceptual rift, dividing psychological thought, which has to do with the mind and body dualism. While some psychologists argued that human psyche has no material existence and should not be analyzed as part of material reality, others sided with empirical science, contending that only observable and measurable behavior can become a source of psychological knowledge:

Two psychologies exist – a natural scientific, materialistic one and a spiritualistic one. This thesis expresses the meaning of the crisis more correctly that the thesis about the existence of many psychologies. For psychologies we have two, i.e., two different, irreconcilable types of science, two fundamentally different constructions of systems of knowledge. All the rest is a difference in views, schools, hypothesis: individual, very complex, confused, mixed, blind, chaotic combinations which are at times very difficult to understand. But the real struggle is only takes place between two tendencies which lie and operate behind all the struggling currents. (Vygotsky, 1987, vol. 3, pp. 300-301)

Vygotsky concluded that both points of view were inadequate, but, after all, from what we now know about the dialectical method, he could not have made any other conclusion. The analytical sketch that ushered in the discussion in this chapter suggested the same sort of verdict that Vygotsky makes in the quotation above. It affirmed the fact that even though the human psyche exists as a property of the individual, its internal relations tie it to his material activities. These internal relations also include collectively shared tools – a construct that, in turn, implies not only material, but also psychological relations. Overall, Vygotsky referred to the movement of his analytical thought as “genetic.” What he meant to argue with this term was not that human
psychological development unfolds along a chronological historical line, but that any state of psychological development contains its own preconditions (a structural “history” of sorts) as part of its internal relations. In Vygotsky’s case, and in the dialectical sense, absolute time has no significance.

Thus, Scribner observes that Vygotsky rejects the mind-body dualism and proposes instead to view the material circumstances of human life and the psychological processes that accompany them as complementary sides of the same phenomenon. Even though it was noted above that Scribner’s treatment of the construct of history in Vygotsky is not dialectical, she still correctly identifies its content as, in fact, referring to historical development. Most importantly, Scribner’s account explains correctly that Vygotsky’s term “genetic” means that we cannot view the explanation of psychological functions separately from the mechanisms of their development:

As we know from his many citations, Vygotsky was, in the first place, dealing with the materialist history of Marx and Engels. One of their kernel ideas was that the human species differs from others because, though manipulations of nature, it frees itself from biological determinism and begins to fashion its own nature. Productive activities (generally “labor”) change in the course of history as new resources and new forms of society come into being. This history is material because it establishes the material activities of people and their intercourse with one another as the source of ideas and mental life (Marx and Engels, 1846).

In adopting this outlook, Vygotsky committed himself to two propositions that it entails: (1) Because socially organized activities change in history, the human nature they produce is not a fixed category that can be described once and for all; it is a changing category. Questions about what human nature is, or more appropriately to Vygotsky’s enterprise, what human mental life is (the “psyche”) is, cannot be separate from questions about how human mental life becomes what it is. Questions of genesis thus move to the forefront of the scientific enterprise; psychological study of human nature (thought and behavior) must concern itself with the processes of formation of human nature. (2) Changes in social activities that occur in history have a directionality: hand-powered tools precede machines; number systems come into use before algebra. This movement is expressed in the concept of historic development in contrast to the generic concept of historic change, and its reflection in human life is expressed as mental development.

(Scribner, 1997, p. 244)
Of course, if one applies the dialectical method in the same fashion as done by Vygotsky, the construct of history become relatively easy to interpret. To do so, one must specify its internal relations on three planes: between man and his material environment, between man’s material activities and his psyche, and between the psychological development of the individual (ontogeny) and that of the human species (phylogeny). Let us now see how Vygotsky characterizes these relations, using Scribner’s account as a point of departure.

Vygotsky’s point of departure is the distinction between psychological development abstracted on the level of human society (the human species) and the same development abstracted onto the level of the individual (the relation between phylogeny and ontogeny, in Vygotsky’s terminology):

At this point, we could break off the requisite digression into other areas of genetic psychology, a digression that has diverted us for a time from our primary goal, and return again to ontogenesis. But we first must briefly formulate the conclusion which we might, it seems to us, justifiably reach on the basis of our digression. The conclusion is this: culture creates special forms of behavior, it modifies the activity of mental functions, it constructs new superstructures in the developing system of human behavior. This is a basic fact confirmed for us by every page of the psychology of primitive man, which studies cultural-psychological development in its pure, isolated form. In the process of historical development, social man changes the methods and devices of his behavior, transforms natural instincts and function, and develops and creates new forms of behavior – specifically cultural.

We shall now define the unique patterns of the appearance, functioning, and structures of higher forms of behavior. We must find the answer to these questions in our research. Now we can only formally answer the questions posed above: speaking of the cultural development of the child, we have in mind the process corresponding to the mental development that occurs in the process of the historical development of mankind. Subsequently, we will try to answer these questions in detail in the language of research.

But we would find it difficult to reject a priori the idea that a unique form of human adaptation to nature, radically distinguishing man from animals and making infeasible a simple transfer of laws of animal life (struggle for existence) to a science of human society, the idea that this new form of adaptation, which lies at the base of all historical human life, would be impossible without new
forms of behavior, without the basic mechanism for equilibrating the organism with the environment. The new forms of relating to the environment which arise in the presence of certain biological prerequisites, but themselves grow beyond the limits of biology, could not bring to life a principally different, qualitatively distinct, differently organized system of behavior.

It is difficult to propose beforehand that society does not create supraorganic forms of behavior. It is difficult to expect that the use of tools, differing in principle from organic adaptation, does not lead to the formation of new functions, new behavior. But this new behavior, arising in the historic period of mankind, this behavior which we conditionally call higher behavior as distinct from biologically developed forms, must certainly have had its own distinct process of development, its own roots and paths. (Vygotsky, 1987, vol. 4, pp. 18-19)

It follows from the dialectical method that abstracting on a high level of generality results in downplaying some of the properties present on the more concrete levels of analysis. Vygotsky realizes this general dialectical premise as follows: “In contrast to phylogenesis, in which the line of historical-cultural development displaces the biological, in ontogenesis both lines of development co-occur and are fused” (Scribner, 1997, p. 246). The next question stemming from the logic of Marxist dialectic is how the relations that break man’s direct biological coupling to the environment come about in material ways before they become a factor in mental life. Again, Scribner is quite correct to point out that Vygotsky conscripts Engel’s argument about the role of material labor tools that, while transforming the human environment, end up transforming the human nature as well.

We can see that in Vygotsky’s interpretations the construct of tool begins to represents a new, indirect relation of man to his material of circumstances. Vygotsky concludes that we are faced here with a qualitative change in the nature of man’s relation to the material circumstances of life that becomes the central feature of human psychological development. That man’s material activities are collective in nature is a conclusion that can be supported through empirical
observation. Also empirically available is the distinction between material tools and psychological tools (sign systems) because each of these constructs implies special kind of relations between man and his environment:

The invention and use of signs as auxiliary devices for solving any psychological problem confronting man (to remember, to compare something, communicate, select, etc.) is, from the psychological aspect, at one point analogous to the invention and use of tools. As such an essential trait of the two concepts being compared, we consider the role of these devices in behavior to be analogous to the role of the tool in a work operation, or, what is the same, the instrumental function of the sign. We have in mind the function of stimulus-device fulfilled by the sign with respect to any psychological operation, that it is a tool of human activity. (Vygotsky, 1987, vol. 4, p. 60)

Scribner cites several specific examples that Vygotsky uses to emphasize the role of psychological tools that relate to counting (tokens), memory (material aids), and writing. Interestingly, Vygotsky traces the origins of writing to visible gestures, putting both within the same category of symbolic relations existing within a human collective and its material environment:

Now we would like to note two points that genetically connect the gesture with the written sign. The first point is the scribbles that a child makes. As we have often observed during experiments, when the child draws, he very often makes a transition to dramatization, showing by a gesture what he wants to picture, and the line made by the pencil only supplements what has been depicted by the gesture. In psychological literature, we know of only a single indication of this. We think that the paucity of similar observations can be explained simply by the absence of attention to this phenomenon which is very important in the genetic respect.

The second point that forms a genetic connection between the gesture and written language brings us to child’s play. As we know, in play some objects can very easily represent others, replace them and become other signs. We also know that in this case the similarity that exists between the toy and the object that it represents is not important. Most important is its functional use, the possibility of using it to produce the representing gesture. In our opinion, this is the only key to explaining the whole symbolic function of child’s play. In play, a lump of rag wood becomes a small child because the child makes gestures that imitate carrying a small child in his arms or feeding it. The child’s own movement, his own gesture is what ascribes the function of sign to a suitable object, and this imparts meaning to it. All symbolic graphic activity is full of such indicating
gestures. Thus, a stick becomes a horse for the child because it can be placed between the legs, and a gesture can be applied to it that will indicate that the stick in this case represents a horse.

In this way, a child’s symbolic play may, from this point of view, be understood as a very complex system of speech aided by gestures that supplement and indicate the meaning of individual toys. Only on the basis of indicating gestures does the toy gradually acquire its meaning precisely as drawing, supported at first by a gesture, becomes an independent sign. (Vygotsky, 1987, vol. 4, p. 134-135)

Scribner devotes considerable attention to the aspect of Vygotsky’s theory that involves the term “primitive.” This construct has become controversial since it seems to imply higher and lower stages of psychological development. Scribner explains that essentially Vygotsky focuses not on stages, but on states of psychological development tied to particular functional systems of sign-mediated behavior which may or may not progress from lower to higher phases:

Vygotsky addresses the question of general processes of formation of particular functional systems, a project quite at variance from one aimed at delineating a particular sequence of general functional systems. … We note that that Vygotsky’s comparisons are always made with respect to some particular system of sign-mediated behavior – memory, counting, writing. As we will see, each of these systems has its own course of development; all of them (“higher” or “cultural” by definition) advance from rudimentary to more advanced forms. But there is no necessity in theory for all functional systems characterizing the behavior of an individual, or behaviors in a given social group, to be at the same level. Vygotsky’s theory allows for the possibility, for example, that highly developed forms of memory or planned behavior will coincide with the use of primitive counting systems, or the other way around. Various combinations are theoretically conceivable. In actuality, because cultural means have a single line of historical development according to Vygotsky, all combinations are not likely to be realized: looking backward at early human societies, we find no examples of highly advanced mathematical systems in the absence of written notational systems. Thus Vygotsky sometimes refers globally to the “psychology of primitive man” and contrasts it, in dichotomous fashion, to the “higher psychology of modern man.” His theoretical scheme, however, does not itself impose such global comparisons. Since his child-primitive comparisons are made with respect to particular functional systems, it is in Vygotsky’s studies of the formation of these systems that we expect to locate their functional significance. (Scribner, 1997, p. 253)
Vygotsky uses the term “primitive” merely to indicate that “the development of higher historically developed forms of behavior occurs according to a type completely different from the development of elementary functions” (Vygotsky, 1987, vol. 5, p. 133). Scribner is obviously on the right track when she remarks that “differences will be located in the particular characteristics of higher systems and the functions they serve, not in the absence or presence of “higher thought’” (Scribner, 1997, p. 253). As can be seen from both quotations, Vygotsky’s scientific argument neither expresses nor implies value judgments.

Earlier we determined that the Marxist dialectical procedure leads Vygotsky to focus his analysis on the higher psychological functions that set man apart from the rest of living and nonliving nature. We saw that, as required by the dialectical method, Vygotsky begins his analysis in the present:

I would like to remind you that this movement toward a more and more complex conception of the problems we study is not accidental, but follows from the specific viewpoint of our research. As you know, our basic viewpoint on the higher functions is that we place these functions in a different relation to the personality than the primitive psychological functions. When we say that man masters his behavior, directs it, then we are using more complex phenomena, such as personality, to explain simple things (voluntary attention or logical memory). We were accused of failing to take account of the concept of personality, which is present in every explanation of the psychological functions with which we are dealing. This is indeed true. And this is the way absolutely all scientific investigations are conducted. According to Goethe’s beautiful expression, we turn the problem into a postulate, i.e., we first formulate a hypothesis, which is then tested and verified in the process of experimental investigation. (Vygotsky, 1987, vol. 3, p. 91)

Furthermore, we noted that Vygotsky gives the construct of psychological functions a temporal extension because he wants to demonstrate how they gradually crystallize in the process of man’s material activities:

In our view, a system of psychological analysis that is adequate from the viewpoint of the theory of localization must be based on a historical theory of the
higher mental functions. At the basis of such a theory lies a theory of systemic and semantic structure of human consciousness. This theory proceeds from the paramount importance of (a) the mutability of the interfunctional connections and relations; (b) the formation of complex dynamic systems which integrate quite a number of elementary functions; (c) the generalized reflection of activity in consciousness. From the viewpoint of the theory defended by us these three aspects represent the most essential, fundamental, and united properties of human consciousness. They form the expression of the law according to which not only the transition from inanimate matter to sensation, but also the transition from sensation to thinking, forms a dialectical leap. In the course of several years we have applied this theory as a working hypothesis, and in the investigation of number of problems of clinical psychology it has led to three basic claims about the problem of localization known to us and allow us to conduct experimental investigations. (Vygotsky, 1987, vol. 3, p. 140)

Thus we see that Vygotsky combines the synchronic and the diachronic outlook dialectically by looking for rudimentary remnants of past developmental forms of higher psychological functions in their present day shape. His hypothesis is that existing psychological structures contain within themselves traces of their historical development. In a way, Vygotsky’s search resembles that of a paleontologist looking for traces of DNA in fossils. As we already know, Vygotsky’s search for fossilized forms of past behavioral patterns coincides with the dialectical requirement to bring down the level of abstraction once the key research constructs have been identified. He uncovers three concrete types of such rudimentary behavior: “casting lots, tying knots, and counting fingers” (Vygotsky in Scribner, 1997, p. 256). The Marxist dialectical method then requires Vygotsky to abstract the common principles that unite said forms of behavior. In keeping with the general Marxist contention about the importance of tool-assisted material labor in shaping human nature, Vygotsky formulates the construct of the psychological tool that signifies a psychological separation from the dictate of immediate environmental stimuli. At this moment we witness how Vygotsky obtains an overarching principle of human behavior: for our species, becoming human implies the mastery of symbolic means that permit control over one’s own activities and the activities of other people. Vygotsky’s unit of analysis is now set: it is designated by the construct
of symbolically mediated psychological functions and corresponding forms of cultural behavior. Now Vygotsky needs to provide his key research construct with a temporal extension in order to fill with meaning his characterization of psychological development as historical-genetic. The problem he faces consists in the difficulty of discovering this historical developmental path since in modern day the rudimentary forms of symbolic mediation have been displaced by highly advanced cultural forms. Scribner indicates that, in part, Vygotsky accomplishes this analysis on the material from ethnic psychology. The facts he is able to glean point in one and the same direction:

External means of regulation of behavior (e.g. knots) “go inward,” passing through a series of stages until symbolic regulation has entirely intrapsychological form. In the sequence of interiorization, Vygotsky believed he had found a model of the formation of higher psychological functions that might apply to the cultural line of development in ontogeny as well as history. Such a model, of course, was hypothetical, since it was derived by the interpretative mode from documentary evidence. (Scribner, 1997, p. 256)

As we already determined, since Marx and Engels highlighted the role of material tools in mediating man’s relation to his material circumstances of life and the provision of basic needs, all Vygotsky had to do is to increase the spatial-temporal extension of the construct of tool by abstracting it to the level of individual psychology:

In all these different ways of tool use we have the indisputable beginnings, the embryonic traces, the psychological prerequisites from which man’s labor activity developed. Engels ascribed a decisive role to labor in the process of humanizing the ape and said that “labor created man himself.” With great thoroughness, Engels therefore attempts to trace the prerequisites which might lead to the beginnings of labor activity. He points out the division in function between arm and leg. He says that “thereby the decisive step was made for the transition from ape to man.” (Vygotsky, 1987, vol. 3, p. 179)

Meanwhile, the psychology of primitive man demonstrates that the whole cultural development of the human mind is connected with the use of signs. And, evidently, cultural development became possible for our apelike ancestors only from the moment when articulate speech developed on the basis of the development of labor. Precisely the absence of this latter factor “explains” the

We have thus traced Vygotsky’s model to the point when it is ready to undergo empirical testing. Yet Vygotsky could not simply observe children grow and test them for psychological development because biological development and psychological growth blend in this period and cannot be easily separated. Such an approach would have been a behaviorist reduction – something that Vygotsky militated against. Scribner explains that Vygotsky was able to circumvent this problem by devising a special kind of experiment that created the necessary conditions for psychological development, instead of trying to detect them in their natural environment. Predictably, Vygotsky named this kind of experimentation “the experimental-genetic method.” Again, we see that the movement of Vygotsky’s thought follows closely the procedure of Marxist dialectical analysis. To remind, Vygotsky began with the most general level of analysis – that of the relationship of man to nature. This stage of analysis revealed an intimate coincidence between the discussion of human nature by Marx and Engels and Vygotsky’s psychological assumptions. The coincidence was by no means accidental; it followed from the logic of the dialectical method of analysis. After that Vygotsky followed up with a change in the level of generality during which he abstracted higher psychological functions into the level of the individual and demonstrated their special character by introducing the construct of mediation and the construct of mediational tools. Next Vygotsky applied a spatial-temporal extension to these constructs in an attempt to describe the historical-genetic nature of psychological development. Finally, he reduced the level of his abstractions by formulating the experimental-genetic method to insure empirical testability of his theory. He then re-abstracted the results obtained with the help of this method to show the validity of his initial assumptions. Scribner (1997) does well, retracing Vygotsky’s analytical steps that we have recounted above:
The experiment fails to inform us about how higher systems are actually realized by the child; an experimentally induced process never mirrors genetic development as it occurs in life (Vygotsky, 1962, p. 69). Nor do experiments capture the rich variety of child behavior in the many settings in which children grow up and acquire culturally elaborated means made available to them in their particular social milieus. Although the experiment models the process, concrete research is required to bring the observations made there into harmony with observations of naturally occurring behavior. Child history provides the material to corroborate or correct the model and reveal how higher processes are formed in everyday activities. Thus Vygotsky begins with and returns to observations of behavior in daily life to devise and test models of the history of higher systems. Starting from behavioral observations of contemporary adults, he moves to observations of primitive adults documented in ethnopsychological records and then, by way of experiment, to behavioral observations of children in modern times.

Vygotsky’s sociohistorical approach turns out on analysis to be not only the foundation of his theory of development but a crucial element in his methodology as well. With this in mind, we can understand his somewhat scornful comment that only “sloth” would assimilate his theory to recapitulationist on parallelist positions. A final verdict is not yet in. But whatever ambiguities his works present, it is clear that he used ethnopsychological material principally for heuristic purposes. Vygotsky was advancing a complicated proposition for psychologists to consider: Look to cultural history for hypothesis about the origin and transformation of higher functional systems. His work may be read as an attempt to weave three strands of history – general history, child history, and the history of mental functions – into one explanatory account of the formation of specifically human aspects of human nature. (Scribner, 1997, p. 258)

As we can see from the second part of the aforementioned citation, Scribner also pinpoints two pivotal aspects of Vygotsky’s analysis. Firstly, she notes the crucial coincidence between Vygotsky’s methodology and the epistemological framework that underlies his cultural-historical theory of human psychology. Secondly, Scribner justly observes that this coincidence gives Vygotsky an opportunity to obviate the danger of falling into the deterministic trap or declaring the law-like nature of human psychological development that mimics the stages of biological growth. Vygotsky is able to avoid these epistemological pitfalls by postulating a dialectical correspondence between mental development and cultural development of the individual and the society.
We have not so far touched on the nature of activity theory which also falls within the scope of our inquiry. Scribner notes that Leont’ev (1965) follows in Vygotsky’s steps in his investigation of the nature of human memory. Like Vygotsky, Leont’ev abstracts the relations represented by the construct of memory into the social level of generality and that of the individual. His terminological choices are consistent with Marxist psychology as well: phylogenesis and ontogenesis. Scribner suggests that the relations of mediation by means of symbolic tools places Leont’ev’s construct of memory within the notion of higher psychological functions advanced by Vygotsky:

Leont’ev’s (1964) research on memory development is an especially clear example of the movement from ethnopsychological to experimental data that we have just described. His introduction to that research begins with a review of the phylogenetic history of human memory that traces the creation and elaboration of external signs as memory aids in history and their replacement by self-generated signs or behaviors that are solely internal. He presents this progression as conjectural. It serves only as a “hypothesis” for experimental investigations, whose task is to reproduce artificially under laboratory conditions the process of development of memory (Leont’ev, 1964). (Scribner, 1997, p. 257)

The final stroke in Vygotsky’s analysis was to abstract a dialectical opposition between the empirical data gained in historical-genetic experiments with children and observations of adults in geographical areas in which higher psychological functions had not had a precondition for development in the form of formal schooling. Luria’s trip to Central Asia served to achieve this goal (Luria, 1976). The working hypothesis for a series of experimental studies that Luria undertook in the area was that introducing formal education into a culture that favored concrete modes of thinking would extend mental capacity to a more abstract level of reflecting reality. Luria argued that new forms of social relations were likely to modify people’s existing psychological structures so that psychological activity would display a less direct grounding in the concrete material circumstances of life. At the same time, in keeping with Marxist dialectic,
Luria noted that these changes would typically supplement the previously available psychological structures, rather than overriding them. Similarly, psychological development ought not to be seen as occurring by necessity or in a stage-like manner. To examine his hypothesis empirically, Luria devised a series of experimental tasks that, among other things, included hypothetical syllogisms whose premises did not refer to concrete situations of daily life. Invariably, those of his subjects that had not received formal schooling or been involved in sophisticated literate activities failed to solve these syllogisms or refused to attempt a solution because, as they claimed, the tasks made no practical sense. Luria’s interpretation of these findings pointed out that such cognitive difficulties were typical of those "whose cognitive activity was formed by experience and not by systematic instruction or more complex forms of communication" (Luria, 1976, p. 115). Thus, Luria showed that, in all likelihood, psychological development has strictly cultural roots.

Our overview of Vygotsky’s analytical procedure that he used to formulate cultural-historical theory of human psychological development demonstrates that it closely follows the Marxist dialectical approach. As we have mentioned elsewhere, Vygotsky’s framework represents Marxist dialectic condensed to the level of concrete psychological science. In complete agreement with the method of dialectic, Vygotsky carried out cycles of abstraction, beginning with the highest level of generality and then reducing the level of generality to focus the analysis on the essential components of psychological development. Each round of abstraction at the higher levels was followed by concretizations with empirically collected material. Subsequent re-abstraction of empirical data helped Vygotsky to prioritize the critical components in the relations that he was analyzing and devise further experimental procedures, illuminating the relations implied by his research constructs. Unfortunately, we have to admit that, despite Scribner’s
profound insights into Vygotsky’s theory, she makes some comments that tend to obscure the actual methodological foundation of his work: “Vygotsky’s sociohistorical approach turns out on analysis to be not only the foundation of his theory of development but a crucial element in his methodology as well” (Scribner, 1997, p. 258). We have shown that, to use Vygotsky’s own terminology, the Marxist dialectical method of analysis served as a mental tool of thinking as he was articulating his theory. But without any doubt, Scribner deserves the highest credit for having been able to reconstruct the elements of the dialectical analytical procedure without previous knowledge of it.

To wit, Scribner was able to identify the main levels of generality on which Vygotsky analyzed his constructs. She also pointed out that additional levels of generality might be required to address the “incompleteness” of Vygotsky’s framework. She proposed to add the level of individual societies and extend the level of individual psychological development into adulthood. Scribner’s outline of the generality levels in Vygotsky’s analysis, including the additions, is as follows: Level 1 – Phylogeny (Human species) – General history; Level 2 – Society – History of individual societies; Level 3 – Life history of the individual in society (the confluence of the natural and the cultural lines of development and mental development in the adolescence); Level 4 – History of a particular psychological system (Scribner, 1997, p. 261). We notice that, essentially, Scribner recapitulates the levels that are already built into the Marxist dialectical method, but not without some confusion. We have demonstrated that Vygotsky operates on Levels 1 and 4 which correspond to the generality levels of material nature and the individual in the diagram of the dialectical method found in the previous chapter. These levels clearly suffice for the goals that Vygotsky set in his research. We have shown that the research constructs localized on these levels reflect a dialectical unity of human material and psychological activity.
Scribner’s additions of the level of individual societies and the history of individual in society may entail the requirement of specify additional sets of dialectical relations that lie outside the bounds of Vygotsky’s framework. In accordance with the Marxist dialectical method, on the level of generality of individual societies we must examine the essential relations of production (economic formation) and the division of labor that results in a specific class structure. Although this is definitely an interesting research direction, we cannot be confident that Scribner is prepared to conduct such an inquiry when she speaks about the need to analyze the cultural specifics of mediational psychological processes because she is not defining the concept of culture in terms of relations of production and concomitant activities. Similarly, on Level 3 Scribner essentially proposes to join two levels of generality: that of the individual and the level of society. We have pointed out on numerous occasions in the previous discussion that a change in the level of generality implies a qualitative alteration in the structure of relations that characterize our research constructs. Fundamentally, this means that the concept of the individual whose historical development takes place on the generality level of human society presupposes a different set of internal relations compared to the concept of the human being considered on the level of individual psychological development. On the societal level, for example, the individual emerges a sum-total of relations of production, institutional relations (law, morality, family), and the like. The level of individual psychological development, according to Vygotsky, resolves itself as a dialectical unity of ontogenetic (individual) and phylogenetic (species) lines of psychological development. The dialectical nature of this connection is revealed in the role of speech and its connection to thinking. Speech understood as a symbolic communicative activity is not limited to humans but is also present in the animal kingdom. However, only in man do the developmental lines of thinking and speech intersect to produce a qualitatively new level of psychological functions. We can conclude that Scribner might have been more careful with such
additions if she used Marxist dialectics.

Overall, with the help of Scribner’s account of cultural-historical theory of human psychology and our own discussion of the dialectical analytical method, we have been able to uncover the intimate connection between Marxist epistemology and Vygotsky’s inquiry. If someone chooses to argue that Vygotsky’s theory is, in some respects, incomplete, automatically the same kinds of objections will have to be mounted against Marxist dialectic. We could venture a prediction that that countering its postulates will not be an easy task because of their epistemological versatility. We have also demonstrated with a considerable degree of certainty that Vygotsky’s theory tends to lose its meaning if its dialectical methodological foundation is treated as an incidental appendix to it rather than its organic part.

**The relationship between Lev Vygotsky’s cultural-historical psychology and A. N. Leont’ev’s activity theory**

The resolution of the question of the relationship between Vygotsky’s cultural-historical psychology and Leont’ev’s activity theory is critical because activity theory has evolved into an explanatory paradigm in its own right whereas its proponents often claim allegiance to the general principles Vygotsky’s dialectical approach to human psychology. Activity theory is an oft-used source of overarching constructs in literacy and writing research, instances of which were analyzed in detail in the previous chapters (Bazerman [1995], Russell [1995, 1997, and 2002], Bazerman and Russell [2002], Lee and Smagorisky [2000], Witte [2005], Zebroski [1983, 1994]). While the selection of scholars drawing on activity theory and cultural-historical paradigm is obviously incomplete, it still provides a representative cross-section of the readings of Vygotsky
and Leont’ev in the U.S. research practice. The following common threads in this regard have come to light. On the whole, the pool of scholarship whose authors refer to Vygotsky’s and Leont’ev’s ideas displays a rather vague knowledge of the premises of Marxist dialectic understood as the most general laws of being and as a method of organizing analytical thought. All along, our argument has been that we cannot put Vygotsky’s and Leont’ev’s work to good use unless we develop a refined understanding of Marxist epistemology first. It is in this sense that the scholarship mentioned above suffers a critical setback. However, dismissing it on this ground alone, however legitimate our criticism, would be counterproductive, so the discussion will now proceed to the more specific inaccuracies in implementing the two approaches in North American writing and literacy studies.

The first of such incongruities is represented by the tendency to integrate Vygotsky’s notions or ideas from activity theory with other strands of research. As a rule, such supplementary paradigms rest on the mechanistic worldview and, because of this, annul the dialectical treatment of research constructs typical for Vygotsky and avowed by Leont’ev. For example, Russell (1995, 1997, and 2002) attempts to relate activity theory to the notion of distributed cognition, abstracting his key constructs into different levels of generality without trying to account for the changes in the structure of the relevant internal relations that such shifts entail. Zebroski (1994) sees the need to augment Vygotsky’s framework with a more detailed theory of symbolic systems, specifically language, but fails to understand that his choice of Yuri Lotman’s explanatory paradigm is contrary to the premises of cultural-historical psychology and activity theory on account of being anchored in idealist philosophy. Finally, Bazerman (1995, 2002) ventures an addition of genre analysis to activity theory. On the surface of it, this appears to be a valuable inclusion, since genres seem to typify certain kinds of symbolic mediation present in
human activities. Still, Bazerman is unable to give a theoretical justification for incorporating the genre paradigm without the necessary appeal to Marxist dialectic in order to illuminate internal relations implied by the construct of activity. Furthermore, Bazerman’s use of theoretical constructs shows a tendency to reify them.

A further area of uncertainty in appropriating the theoretical legacy of cultural-historical psychology and activity theory concerns the kinds of practical guidelines for education and upbringing derived from these paradigms. Both Vygotsky’s and Leont’ev’s scholarship is often identified with social constructionism whereas they should be more accurately described as social constructivist. This distinction is based on the key social constructionist assumption that all human knowledge of reality is derived from social interactions, i.e. discourse. Social constructionism is often regarded as extension of Husserl’s phenomenology2, which Vygotsky would most likely judge to be metaphysical, an approach that runs contrary to materialistic dialectic.

This false association leads many readers of Vygotsky and Leont’ev to believe that these theoretical positions argue for the primacy of purely social conditions of psychological development seen in terms of natural growth. This assumption is realized as a pedagogical approach characterized by the construct of student-centered classroom in the analysis of Bazerman’s and Smagorinsky’s work. In that analysis the construct was loosely explained as a laissez-faire pedagogy that emphasizes the students’ freedom to make their own educational choices, relegating the teacher to the role of an observer and semi-active coordinator. Bazerman’s and Smagorinsky’s case studies exposed the haplessness of enforcing the notion of student-

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2 For more on social constructionism, see Berger (1966), Searle (1995), and Hacking (1999).
centered classroom in practical teaching. The authors, however, have failed to see that the very existence of such an approach is caused by a non-dialectical reading of the theoretical positions in question. The idea of control over one’s psychological and material activity carried out with the help of mediational tools present both in Vygotsky’s and Leont’ev’s studies presupposes that, if such control functions have not yet developed, the control has to come from without. As we have shown earlier, Vygotsky argues that human intellect receives a boost when its line of development intersects with the development of speech. Speech, in turn, develops as a function of interpersonal interaction and has immediate ties to the material communicative situation and the activities, accompanying it. However, when these two lines of psychological development intersect, speech extends its function from a purely external means of relating to others to a vehicle of intrapersonal psychological activity, a way of accounting for and gaining control over one’s own psychological processes which is based on speech symbolisms. Vygotsky characterizes this stage in ontogenetic development as the discovery of the symbolic function of speech:

As is well known, animals can master the words of human speech and use them in appropriate situations. Before the child reaches this critical point in development, he also masters individual words that are for him nothing more than conditioned stimuli or substitutes for objects, people, actions, states, or desires. At this point in his development, however, the child knows words only to the extent that they are given to him by the people around him.

A new situation emerges with the new stage in the child’s development mentioned above. On seeing a new object, the child asks what it is called. He finds himself in need of a word and actively strives to master the sign belonging to the object, the sign that permits naming and communication. . . . At this critical point in the child’s life, speech begins the intellectual phase of its development. The child “discovers” the symbolic function of speech. (Vygotsky, 1987, vol. 1, p. 111)

Vygotsky’s formula of psychological development outlined above suggests that the formative influences that drive it always come from without, from the child’s immediate social environment. With respect to the situation of formal education, this means that pedagogical
influences will have a better chance of succeeding if they act as a locomotive of developmental processes. Instruction that does not provide for active symbolic stimulation of the student’s activities deprives him of the essential motive to develop new psychological functions. Once again, in Vygotsky’s paradigm such stimulation can only come from the midst of interpersonal relations because all psychological functions originate as patterns of social interactions.

Furthermore, Vygotsky’s construct of the zone of proximal development defines the limits of possible psychological development through the capacity to accomplish the tasks at hand with external help:

Psychological research on the problem of instruction is usually limited to establishing the level of the child’s mental development. The sole basis for determining this level of development is tasks that the child solves independently. This means that focus on what the child has and knows today. Using this approach, we can establish only what has already matured. That is, we can determine only the level of the child’s actual development. To determine the state of the child’s development on this basis alone, however, is inadequate. The state of development is never defined only by what has matured. If the gardener decides only to evaluate the matured or harvested fruits of the apple tree, he cannot determine the state of his orchard. Maturing trees must also be taken into consideration. The psychologist must not limit his analysis to functions that have matured. He must consider those that are in the process of maturing. If he is to fully evaluate the state of the child’s development, the psychologist must consider only the actual level of development but the zone of proximal development. (Vygotsky, 1987, vol. 1, pp. 208-209)

Vygotsky goes on to argue that “the teacher must orient his work not on yesterday’s development in the child but on tomorrow’s” (Vygotsky, 1987, vol. 1, p. 211). It follows, then, that the student cannot determine the path of his educational development without external help. We can, therefore, conclude that Vygotsky would argue for the maximum pedagogical interference, admissible under the concrete circumstances of the educational process.
Witte’s (2005) treatment of activity theory and Vygotsky’s ideas is by far the most profound of
the lot, which puts it on par with Scribner’s examination. Unlike the other authors under analysis,
Witte examines the canonical treatments of activity theory both by its founder, Leont’ev, and
modern scholars, notably Engeström (1990, 1997). Witte’s question is as simple as it is profound:
how could one translate a theoretical program into hands-on research? Thus, Witte puts the focus
squarely on the choice of phenomena that should be represented by research constructs and
explored empirically in order to arrive at the general principles of organization in human activity:

As part of his analysis of the crisis in psychology, Vygotsky outlined the
structure of a psychological theory, drawing a distinction between two categories
of constituents that make up a theory. One of these categories is the general
explanatory principle. This principle is a statement, or statements, which serves
to define the domain and boundaries of phenomena that are addressed by the
theory. The other category is the objects of study of the theory, which consist of
those psychological constructs that account for the realization of the explanatory
principle as observable and objective phenomena. (Bracewell & Witte, 2003, p.
519)

Vygotsky denotes such phenomena with the construct of the unit of analysis. Witte’s uneasiness
concerning the construct of activity as a candidate for such a unit is understandable because,
when considered on its own, this construct resists being localized within more or less definite
empirical boundaries. As Witte aptly remarks, anything and everything in human life can be
abstracted in terms of the construct of activity:

Activity is, we think, perhaps better understood as something like a theoretical
construct rather than as a phenomenological and, hence, objective category. In
this, activity is like the constructs of gravity or intelligence, theoretical constructs
which are associated with two very different domains. Neither gravity nor
intelligence can be “known” in and of themselves through the senses. They are,
simply put, abstractions, which have the additional characteristic of having
accrued explanatory power. Their existence is posited or hypothesized not
because of their objective natures but because of their objective effects. One
cannot see, touch, hear, smell, or taste gravity when an apple falls from a tree to
the ground, nor can one see, touch, hear, smell, or taste intelligence when a
pedestrian waits for vehicular traffic to clear before entering a crosswalk. But one
can observe the “effects” of gravity in the first case and the “effects” of
intelligence in the second. Activity, it seems to us, is nonobjective in much the
same sense as gravity and intelligence are, and for much the same reason. To study what Leont’ev defines as activity (e.g., hunting, canoeing, caring for patients in a medical clinic, economic forecasting, driving an automobile) is to study effects that are perhaps explained by something like a theoretical construct, an abstraction: One cannot see, touch, smell, taste, or hear canoeing, caring, or forecasting. However, one can see, touch, smell, taste, or hear their effects. This view of the category of activity implies, of course, that operations and actions, rather than simply enabling or causing activity to occur, may actually represent the effects of activity or, more precisely, the effects of people’s participation in activity. Activity might thus be viewed as a theoretical construct that functions to explain or account for in some way a collocation of human behaviors and behavior outcomes entered around some set of performance parameters. (Bracewell & Witte, 2003, pp. 521-522)

Witte’s and Bracewell’s discussion would have greatly benefited from an understanding that Marxist dialectic is not only a catalog of the most general laws of nature, but also an analytical method that functions as a mental tool. The purpose of this tool is to control the process of abstraction and the mental points of view (vantage points) to keep theory building focused on the essential constitutive relations of the phenomena under analysis. We could say that this consideration gives us sufficient justification to postulate the inclusion of activity theory into Vygotsky’s cultural-historical approach. Vygotsky’s theoretical attention was leveled at higher psychological functions that give human behavior its distinct character. However, the structure of Marxist dialectical analysis does not allow for any other consideration of material human activities and the psychological processes that stem from them but the one that proceeds from the recognition of the genetic unity. Higher psychological functions unfold and evolve in the conditions of practical material activities whose distinctive structure is based on the use of mediational tools. This having been said, we have to recognize Vygotsky’s position as dialectically organic and complete, and Leont’ev’s position as reductive. Consideration of material activities alone collapses the historical-genetic analysis of human psychological development solely to its material manifestations. This fuzziness of the construct of activity noted by Witte is a characteristic symptom of a reductive approach:
Unit-of-analysis problems. A related problem for the researcher is strategic: If every human engagement with the social or material world is part of an activity or an activity system (and all such engagements may well be), as a researcher I am left with two equally unsatisfactory research strategies, given the two writers’ theoretical models. Either I can offer a description of some activity around which I’ve drawn some arbitrary boundaries, knowing that my description is not in and of itself an explanation, or I can explain activity in terms of activity, in which case the object of analysis becomes indistinguishable from the analysis itself. What is missing in Engeström’s and Leont’ev’s theories of activity is, in effect, the specification of a unit or units of analysis that would allow me to account for or to explain activity in terms of something other than itself. Tautology is not just a problem in logic and in formal definition; it is also a problem when one tries to transform activity theory into a program of research. (Witte, 2005, p. 141)

Thus, Witte is strictly opposed to theoretical positions that, in practice, turn out to be reducible to their own terminology. In the case of activity theory, we observe that the construct of activity effectively subsumes the entire phenomenon that the purported theory seeks to explain. Additionally, the term “activity” denotes the levels of abstraction and generality that are far removed from the material situation of human psychological functioning. Witte argues that both of these restrictions may act as nearly insurmountable epistemological hurdles in real-world research. In this connection, we could make a good case that Witte’s selection of the construct of task for the studies of human practices is not without merit. It submits comfortably to spatial and temporal localization, while also providing a point of access to higher psychological functions that constitute its relational content. This brings us to the recognition of the area in which Witte’s pioneering analysis can be expanded further. We could achieve such expansion if we analyzed the construct of task for the internal relations it subsumes. We could use the outline of the dialectical method provided previously to determine the levels of generality, proper extensions, and vantage points to describe the genetic principles that underlie human functioning in various tasks. However, we should also foresee that difficulties in separating the circumstantial relations within specific task contexts from the essential ones. It remains to be seen what levels of generality could be achieved in conclusions, given the constraints of the concrete goals of particular studies.
At the very least, we already have at our disposal the most general set of principles that come from cultural-historical psychology and their epistemological and methodological justification in the form of Marxist dialectic.
CONCLUSION

In summary, we wish to affirm that it is not the choice of the actual unit of analysis that ensures success of a study or dooms it even before the inquiry commences; rather, it is the mental control over one’s theory making exercised through the rational application of the dialectical method that could spell the difference between success and failure. We argue categorically that, if we wish to take Vygotsky’s theory seriously, we will also have to subscribe to the idea that the Marxist dialectical method constitutes a higher psychological function that a researcher has to develop to be able to explain complex social relations. We contend that the relation of Vygotskian psychological mediational tools to the human psyche is the same as the relation that Marxist dialectical method forms with scientific practice in human sciences. As of now, the dialectical method is the only means of voluntary control over theoretical activity explicitly formulated to produce satisfactory explanations of the complex reality arising from the relations that inhere in the human condition. To claim that there is really no set unit of analysis that should reign in human studies is an unexpected conclusion. Perhaps, we should add a few final qualifications to clarify this idea. When we say that one cannot approach any study with a predetermined unit of analysis, we mean precisely that: the unit of analysis will emerge from the formulation of the research question and a dialectical delineation of the circumstances that define the space of possible answers.

Of course, the process of determining the unit of analysis in these conditions will include deciding whether the research question is answerable at all. On the other hand, as far as the study of human psychology is concerned, we will have to concur with Vygotsky’s choice of the unit of
analysis. To remind, his original intention was to study the properties of human behavior that made humans psychologically different from the rest of the animal kingdom. To fill this role, Vygotsky’s answer cited the higher psychological functions mediated by symbolic tools and the peculiar mode of their development which consisted in the individual appropriation of social relations produced by various forms of collective material activity. Vygotsky’s contention was that even though some activities may appear to be the same to an observer, they are nevertheless accomplished with very different sets of higher psychological functions. Essentially, psychological development is hidden from direct observation, which prompted Vygotsky to argue that it can only be studied indirectly. Vygotsky circumvented this difficulty dialectically – by aiming his experimental design not the object of research, but at the conditions that could bring this object into existence. Methodologically, the lesson we learn from Vygotsky’s successes, and the relative failure of those who came after him with the idea to use to the construct of activity as a universal unit of analysis, is that choosing the units of analysis must correspond closely to the level of generality estimated with the help of the dialectical method. We note, however, that changes in extension and vantage point of relevant constructs in the course of dialectical analysis may destabilize the units of analysis, so the level of generality and extension in the analysis of the internal relations underlying these constructs must be constantly adjusted. Vygotsky argues that one has to find such a unit of analysis that is qualitatively indivisible (i.e. denotes relations that cannot be separated analytically without losing sight of the unified whole that they constitute), In other words, the unit of analysis (the construct or concept that represents it) must exhibit the same qualities or properties that characterize the whole.

Now that we have a better understanding of the connection between Vygotsky’s theory and Marxist dialectic, we realize that Vygotsky, most likely, meant the unit of analysis to be
indivisible on the chosen level of generality. To give an example, it would be meaningless, as we have pointed out in the previous critiques, to use activity as the unit of analysis to discuss the nature of higher psychological functions, for the simple reason that the same activities are served by different dynamically changing systems of psychological functions. Otherwise stated, we have established that conclusions about human functioning on the level of generality designated by activity will have validity only on that level. Potentially, we may face the problem of being unable to abstract across generality levels if our analysis is conducted along the lines of activity. In particular, researchers engaged in applied studies may have a hard time arguing for the general applicability of their findings. This difficulty, however, could just be alleviated with a continual reference to the general frameworks provided by Vygotsky and Marxist materialist philosophy, namely the idea that fundamental explanations of human psychology have to be sought among the psychological functions that separate us qualitatively from other living beings. Vygotsky maintains that in higher forms of behavior symbolic mediation reigns supreme and singles out the human language as the most powerful mediational tool. It is for this reason that Vygotsky links his units of analysis to linguistic meaning. It seems that a dialectical synthesis of the construct of task Witte (2005) and Vygotsky’s construct of linguistic meanings could provide interesting leads in setting up a multifaceted unit of analysis that would suggest new directions in literacy and writing research.

Bracewell and Witte (2003) argue in favor of an overarching theory of human performance, but at the same time caution against using activity theory for this role:

More important for present purposes of theoretical and methodological elaboration, the specification of the activity/motive level is both welcome and challenging. It is welcome for at least two reasons. First, those of us of any disciplinary allegiance, whether rhetorician, cognitive psychologist, or applied linguist, who have moved from the study of literacy in constrained situations such as the laboratory or classroom to the study of literacy in the workplace have
often sensed the need for constructs that account for the general coherence of people’s performance across time and space. Second, and more specifically, from the perspective of cognitive psychology, it is a very attractive construct that brings together into a unified framework two aspects of people’s performance that have remained largely separate in Western psychology, namely, motivational and cognitive aspects of performance. For these reasons at least, the possibility of a more encompassing theory of human performance is most welcome. At the same time, the construct of an activity/motive level is a challenging one, because it is a formidable one both to understand (e.g., what is the nature of an activity/motive?) and, relatedly, to apply (e.g., how does one link the activity/motive construct with the detailed and diverse performances reflected in a transcript or a videotape of a working group?). (Bracewell & Witte, 2003, pp. 518-519)

In Bracewell and Witte (2003) and Witte (2005) we witness a concentrated effort to modify the construct of activity in a way that provides conceptual linkage between the level of abstraction implied in it and the level of concrete observable human actions. Earlier we voiced our approval of Witte’s choice of the construct of task as the principal unit of analysis, but we must now introduce some reservations, concerning this issue. The reservations have to do with bringing Witte’s unit of analysis into agreement with Vygotsky’s original perspective and its methodological underpinning – Marxist dialectic. When Bracewell and Witte “propose the psychological construct of task as necessary for understanding practical human activity” (2003, p. 512), we should be careful to note that the observable human performance on real-world tasks constitutes only part of the relations, underlying the construct of task. The other group of the relations denoted by this construct is located in one’s psychological sphere and points toward the psychological functions deployed to fulfill a particular task. The authors’ wish to account for this second set of relations is obvious in their definition of the construct of task as “psychological.” However, we are faced, yet once again, with the problem that we encountered while reviewing the applicability of the notion of activity to concrete research situations. Namely, we have to find a conceptual way with whose aid we could bridge the interpersonal relations to a person’s inner psychological activity. The construct of task solves this problem only partially, by bringing down
the degree of abstraction to the level of observable human activities, but we still have to gain conceptual access to psychological functions proper. Vygotsky’s solution in this regard is (1) to posit a direct correspondence between the structure of social relations and the structure of psychological functions that come into play when these relations are realized; (2) to assert that social relations always precede the corresponding mental functions; and (3) to argue that structurally individual consciousness functions in the same way as interpersonal interactions:

In general, we could say that the relations between higher mental functions were at one time real relations between people. I relate to myself in the same way that people relate to me. As verbal thinking represents an internalization of speech, as reflection is an internalization of argument, precisely so the mental function of the word, according to Janet, cannot be explained in any other way unless we bring into explanation a system broader than man himself. The original psychology of the function of the word is a social function, and if we want to trace how the word functions in the behavior of the individual, we must consider how it functioned formerly in the social behavior of people. (Vygotsky, 1987, vol. 4, p. 103)

From this, we can see that the only path to connecting the theoretical domain of human activity composed of actual tasks with its psychological background is through elaborating the mediating role of speech and other representational means, by accounting for its meanings whose structure mirrors the structure of interpersonal interactions in question. Such an analysis has to bring together the socio-linguistic, sociological, and psychological perspectives, focusing on different aspects of relations that underlie the construct of task. Last but not least, the abstraction routines carried out during the analysis have to conform to Marxist dialectical methodology, with each round of abstraction corresponding to the sets of relations that are relevant to the discussion at a given level of generality and dialectical extension. Thus, the construct of task abstracted to the level of interpersonal relations will address the communicative and labor connections that emerge during real life activities and can be documented in considerable detail. Abstracting the same construct to the level of psychological functions will shift the analytical focus to symbolic
mediational means and the structures of meaning, originating in the activities observed during the previous round of abstraction. Based on Vygotsky’s postulate about the connection between social relations and the relations among psychological functions and the primacy of the former, we could then argue that the observed relations of concrete activities and the semiotic structures that accompany and sustain them have a direct bearing on people’s psychological landscapes and outline the inner psychological relations typical of the activities under consideration. In principle, this research program agrees with Bracewell and Witte’s (2003) intention to articulate a two-tier approach in which an overarching theoretical paradigm (in our case, Vygotsky’s cultural-historical psychology, and even more generally, Marxist dialectic) would give rise to a set of more detailed hypotheses, specifying the exact internal relations within the phenomena under analysis. The proposed approach will open up the opportunity of providing comprehensive theoretical explanations of human literate functioning that transcend the social-individual and the mind-body divides.
REFERENCES


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