Introduction

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Activity theory: A well-kept secret

Activity theory is a commonly accepted name for a line of theorizing and research initiated by the founders of the cultural-historical school of Russian psychology, L. S. Vygotsky, A. N. Leont'ev, and A. R. Luria, in the 1920s and 1930s. The approach has been elaborated further by a large number of contemporary scholars both in the former socialist countries and in the West. Although certain key works of Vygotsky and Luria are widely accessible and have become classic references in behavioral sciences (e.g., Vygotsky, 1978; Luria, 1976), the bulk of more recent activity-theoretical publications remain scattered and often difficult to obtain.

In the United States, very few books have been published that address the central theoretical concept of activity. These include Leont'ev's (1978) *Activity, Consciousness, and Personality* and two edited volumes of translated texts, *The Concept of Activity in Soviet Psychology* (Wertsch, 1981) and *Activity: Theories, Methodology and Problems* (Lektorsky, 1990). The first two have been out of print for quite a while. Moreover, all three books represent exclusively Soviet views.

Activity-theoretical ideas are having increased impact in specific fields of inquiry, such as learning and teaching (e.g., Moll, 1990) and human–computer interaction (e.g., Nardi, 1996). Activity theory is discussed in books attempting to formulate theories of practice (Chaiklin & Lave, 1993), distributed cognition (Salomon, 1993), and sociocultural psychology (Martin, Nelson, & Tobach, 1995). A new journal, *Mind, Culture and Activity,* publishes a steady flow of articles inspired by activity theory. However, in all these contexts, activity theory still tends to appear as an intriguing alternative approach only partially and briefly revealed to

the readers. To this day, its rich texture remains a well-kept secret to the Western scientific community.

Although we cannot claim to offer a complete overview, we at least want to pull aside the curtain of secrecy that has covered much of activity theory. This volume is the first attempt to present a somewhat balanced variety of the theoretical views and practical applications of activity theory currently developed by researchers in different parts of the world.

In 1986, the First International Congress for Research on Activity Theory was organized in Berlin. In 1987, an international scientific society for research based on activity theory (ISCRAT) was founded. In 1990, the Second International Congress for Research on Activity Theory was held in Lahti, Finland. The third congress was held in Moscow in 1995. The chapters in this volume originate mainly from selected contributions to the second congress. These chapters are authored by scholars from 10 countries.

In the post–World War II decades, activity theory was mostly developed within the psychology of play, learning, cognition, and child development. It was applied in research on language acquisition and experimental development of instruction, mainly in the context of schools and other educational institutions. Although these domains continue to be central, activity-theoretical research has become broader in the 1980s and 1990s. It now encompasses such topics as development of work activities, implementation of new cultural tools such as computer technologies, and issues of therapy.

It is important to point out the nondogmatic nature of the current phase of discussion and collaboration in activity theory. A prominent feature of the chapters in this book is their multifaceted search for connections and hybrids between activity theory and other related traditions. Examples include Stephen Toulmin discussing the relationship between Vygotsky and Wittgenstein (Chapter 3), Michael Cole discussing the relationship between activity theory and cultural psychology (Chapter 6), Ethel Tobach discussing the relationship between activity theory and the theory of integrative levels (Chapter 9), Francesco Paolo Colucci discussing the relationship between Leont'ev and Gramsci (Chapter 10), and Anthony Ryle discussing the relationship between psychoanalytic object relations theory and activity theory (Chapter 24) – to name just a few. Such parallels and hybrids make the implications and potentials of activity theory more accessible in multiple fields of research and practice without compromising the search for and elaboration of a common conceptual and methodological core.

Philosophical sources and discussion partners of activity theory

First and foremost among the philosophical roots of activity theory is the work of Karl Marx. It is not an exaggeration to say that Marx, in his *Theses on Feuerbach,* was the first philosopher to explicate pointedly the theoretical and methodological core of the concept of activity. The first and third theses condense the point of departure for activity theory.

> The chief defect of hitherto existing materialism (that of Feuerbach included) is that the thing, reality, sensuousness, is conceived only in the form of the *object or of contemplation,* but not as *sensuous human activity, practice,* not subjectively. Hence, in contradistinction to materialism, the *active* side was developed abstractly by idealism – which, of course, does not know real, sensous activity as such. Feuerbach wants sensuous objects, really distinct from the thought objects, but he does not conceive of the human activity itself as *objective* activity. Hence, in *Das Wesen des Christenthums,* he regards the theoretical attitude as the only genuinely human attitude, while practice is conceived and fixed only in its dirty-judaical manifestation. Hence he does not grasp the significance of "revolutionary," of "practical-critical" activity.
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> (3) The materialist doctrine concerning the changing of circumstances and upbringing forgets that circumstances are changed by men and that it is essential to educate the educator himself. This doctrine must, therefore, divide society into two parts, one of which is superior to society.
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> The coincidence of the changing of circumstances and human activity or self-changing can be conceived and rationally understood only as *revolutionary practice.* (Marx & Engels, 1968, pp. 659–660)

Marx is doing several things in these short paragraphs. First, he shows that neither mechanical materialism nor idealism will do. Mechanical materialism eliminates human agency, and idealism puts it in the head or soul of the individual. What both are missing is the concept of activity that overcomes and transcends the dualism between the individual subject and objective societal circumstances. Second, Marx shows that the concept of activity opens up a new way to understand change. Change is not brought about from above, nor is it reducible to purely individual self-change of subjects. The key is "revolutionary practice," which is not to be understood in narrowly political terms but as joint "practical-critical activity," potentially embedded in any mundane everyday practice.

Marx's concept of labor, or production of use values, was the paradigmatic model of human object-oriented activity for Leont'ev when he formulated the concept of *activity.* Drawing directly on Marx and Engels, he emphasized the two mutually dependent aspects of mediation in labor activity.

The first is the use and making of tools. "Labour," Engels said, "begins with the making of tools."

The second feature of the labour process is that it is performed in conditions of joint, collective activity, so that man functions in this process not only in a certain relationship with nature but also to other people, members of a given society. Only through a relation with other people does man relate to nature itself, which means that labour appears from the very beginning as a process mediated by tools (in the broad sense) and at the same time mediated socially. (Leont'ev, 1981, p. 208)

In the early work of the cultural-historical school, led by Vygotsky, the unit of analysis was object-oriented action mediated by cultural tools and signs (see Vygotsky, 1978, p. 40). Mediation by other human beings and social relations was not theoretically integrated into the triangular model of action. Such an integration required a breakthrough to the concept of activity by distinguishing between collective activity and individual action. This step was achieved by Leont'ev by means of reconstructing the emergence of division of labor. This analytical feat, prompted by Leont'ev's careful reading of Marx, is summarized in the following famous passage.

A beater, for example, taking part in a primeval collective hunt, was stimulated by a need for food or, perhaps, a need for clothing, which the skin of the dead animal would meet for him. At what, however, was his activity directly aimed? It may have been directed, for example, at frightening a herd of animals and sending them toward other hunters, hiding in ambush. That, properly speaking, is what should be the result of the activity of this man. And the activity of this individual member of the hunt ends with that. The rest is completed by the other members. This result, i.e., the frightening of game, etc., understandably does not in itself, and may not, lead to satisfaction of the beater's need for food, or the skin of the animal. What the processes of his activity were directed to did not, consequently, coincide with what stimulated them, i.e., did not coincide with the motive of his activity; the two were divided from one another in this instance. Processes, the object and motive of which do not coincide with one another, we shall call "actions." We can say, for example, that *the beater's activity is the hunt, and the frightening of the game his action.* (Leont'ev, 1981, p. 210; italics added)

This distinction between activity and action became the basis of Leont'ev's three-level model of activity. The uppermost level of collective activity is driven by an object-related motive; the middle level of individual (or group) action is driven by a goal; and the bottom level of automatic operations is driven by the conditions and tools of action at hand.

It has become commonplace to omit Marx as an essential theoretical source from discussions of activity theory, in particular in assessments of Vygotsky's work. This omission occurs largely for political and ideological reasons. However, the appropriation and creative development

of central theoretical ideas of activity theory presuppose a careful and critical study of Marx's work.

In the *Economic and Philosophical Manuscripts of 1844* Marx (1964) presented a materialist interpretation of the Hegelian conception of self-creation through labor as the essence of humanity. According to this interpretation, in the production of use values, humans change the outer nature and their own nature as well. Human nature is not found within the human individual but in the movement between the inside and outside, in the worlds of artifact use and artifact creation.

> We see, that the history of industry and the established objective existence of industry are the open book of man's essential powers, the perceptibly existing human psychology. (. . .) We have before us the objectified essential powers of man in the form of sensuous, alien, useful objects, in the form of estrangement, displayed in ordinary material industry. (. . .) A psychology for which this, the part of history most contemporary and accessible to sense, remains a closed book, cannot become a genuine, comprehensive and real science. (Marx, 1964, p. 142)

Most of the works of Marx developed the idea of alienated labor, work under the specific circumstances of capitalism. The idea of total submission of concrete work to abstract work and production of surplus value, combined with a weak empirical analysis of the creation and uses of technologies, makes much of his analysis of the effects of labor on humans a somewhat abstract and exaggerated history of ever-increasing misery and exploitation. That is also why the creative and dynamic potential of concrete work process and technologies remains underdeveloped in his work. This dilemma is unfortunately repeated in much of the modern Marxist literature on work (e.g., Braverman, 1974).

However, Marx's analysis of capitalism includes invaluable analytical instruments, above all the concept of commodity as a contradictory unity of use value and exchange value. This dialectical concept is crucial for any serious analysis of the contradictory motives of human activities and human psyche in capitalist society. As Leont'ev (1981, p. 255) put it, "to ignore these peculiarities and remove them from the context of psychological research is to deprive psychology of historical concreteness, converting it into a science solely of the psyche of an abstract man, of 'man in general'."

Many of the ideas of pragmatism have common features with activity theory. The program of "transcending the dualisms" between thought and activity, theory and practice, facts and values has much in common with the theoretical aims of activity theory. John Dewey and George Herbert Mead developed conceptions of action, of practice, and at times even

of collective activity. In his *Essays in Experimental Logic,* Dewey gives the following definition of practice.

> It means that knowing is literally something which we do; that analysis is ultimately physical and active; that meanings in their logical quality are standpoints, attitudes and methods of behaving toward facts, and that active experimentation is essential to verifications. (Dewey, 1916, p. 331)

And Dewey goes on:

> The object of knowledge is not something with which thinking sets out; but something with which it ends: something which the processes of inquiry and testing, that constitute thinking, themselves produce. Thus the object of knowledge is practical in the sense that it depends upon a specific kind of practice for its existence. (Dewey, 1916, p. 334)

These ideas are fully viable from the point of view of current epistemological debates in social sciences. They also have a family relationship to Leont'ev's ideas of object and motive construction as central mechanisms of transformation of activity.

> Thus, the object of activity is twofold: first, in its independent existence as subordinating to itself and transforming the activity of the subject; second, as an image of the object, as a product of its property of psychological reflection that is realized as an activity of the subject and cannot exist otherwise. (Leont'ev, 1978, p. 52)

In *Human Nature and Conduct,* Dewey (1922) argues forcefully that goals are formulated and developed during the process of studying and orienting to the objective conditions of activity. Goals are therefore "milestones" in the course of activity, not its purpose or ultimate motive. Again, we see an affinity to Leont'ev's thinking.

> Besides, isolation and perception of goals by no means occurs automatically, nor is it an instantaneous act but a relatively long process of approbation of the goals by action and by their objective filling, if this can be expressed in such a way. The individual, justly notes Hegel, "cannot determine the goal of his acting as long as he has not acted. . . ." (Leont'ev, 1978, p. 65)

In contrast to activity theory, the absence of cultural mediation is evident in much of Dewey's work. The study of Dewey's extensive production, however, reveals continually interesting theoretical openings and parallels with activity theory. Dewey's analyses of technology may be mentioned as a case in point (see Hickman, 1990).

G. H. Mead developed his theory of significant symbols within the context of division of labor in society (e.g., Bhattacharya, 1978). It is cooperative activity based on division of labor that makes the reciprocal role taking necessary. In *The Philosophy of Act,* Mead (1938) speaks of the nonindividual "social act," "whole act," or "whole social act," thus

moving toward the concept of collective activity. According to Mead, an act of an individual is "abstracted" from the whole social act that is the prime object of study.

Building on Mead's theoretical legacy, Anselm Strauss and his colleagues have created a tradition of symbolic-interactionist studies of work that is in many ways parallel to efforts within activity theory (see Strauss, Fagerhaugh, Suczek, & Wiener, 1985; Strauss, 1993; Maines, 1991). Star (Star & Griesemer, 1989), Fujimura (1992), and Henderson (1991) have studied what happens in encounters between different *social worlds* – a unit of analysis roughly equivalent to the activity system.

They have developed the concepts of *boundary object, translation,* and *boundary crossing* to analyze the unfolding of object-oriented cooperative activity of several actors, focusing on tools and means of construction of boundary objects in concrete work processes. This work represents obvious challenges and opportunities for activity theory. It is no longer sufficient to focus on singular, relatively isolated activity systems. Activity theory needs to develop tools for analyzing and transforming networks of culturally heterogeneous activities through dialogue and debate.

The work of Ludwig Wittgenstein has been an important inspiration for many relevant studies on discourse and human practices. In his *Philosophical Investigations* (1958), Wittgenstein contended that the meanings of concepts and words can be understood only as part of a specific language game with its specific rules. Such a language game must be understood as part of a broader context. Wittgenstein calls this broader context "form of life." Both the significance of actions and the meaning of speech can be understood as a part of forms of lives. Wittgenstein uses the example of communication between a mason and his assistant in building a house (Wittgenstein, 1958, §24). The words used on communication are closely related to the objects (bricks) and their qualities (different shapes and sizes) significant to the common object of work: house construction.

Wittgenstein's idea of language game as an aspect of form of life has a strong affinity to activity-theoretical conceptions of communication as an integral aspect of object-oriented practical activity. Yet Wittgenstein's legacy is a healthy reminder of a potentially one-sided emphasis on the physical, tool-mediated aspect of human conduct in activity theory. In recent years, an increasing number of activity-theoretical studies have focused on issues of discourse and signification, often drawing on Wittgenstein and on the work of the Russian literary theorist and philosopher Mikhail Bakhtin (see Bakhtin, 1982). However, the integration of discourse into the theory of activity has only begun.

The current relevance of activity theory

In psychology, we have recently witnessed a wave of interest in contextual and cultural theories. In cognitive science, a similar phenomenon is associated with the concepts of *situated cognition* and *distributed cognition*. In education, situated learning in communities of practice has emerged as an attractive and controversial new approach. In sociology of science and technology, the concept of *practice* and the notion of *actor networks* have taken center stage.

Activity theory has much to contribute to the ongoing multidisciplinary wave of interest in cultural practices and practice-bound cognition. Activity theory should not be regarded as a narrowly psychological theory but rather as a broad approach that takes a new perspective on and develops novel conceptual tools for tackling many of the theoretical and methodological questions that cut across the social sciences today.

One of these pervasive and persistent issues is the relationship between the micro and macro levels of analysis. Various microsociologies have produced eye-opening works that uncover the local, idiosyncratic, and contingent nature of action, interaction, and knowledge. Empirical studies of concrete, situated practices can uncover the local pattern of activity and the cultural specificity of thought, speech, and discourse. Yet these microstudies tend to have little connection to macrotheories of social institutions and the structure of society. Various approaches to analysis of social networks may be seen as attempts to bridge the gap. However, a single network, though interconnected with a number of other networks, typically still in no way represents any general or lawful development in society.

According to activity theory, any local activity resorts to some historically formed mediating artifacts, cultural resources that are common to the society at large. Networks between activity systems provide for movement of artifacts. These resources can be combined, used, and transformed in novel ways in local joint activity. Local, concrete activities, therefore, are simultaneously unique and general, momentary and durable. In their unique ways, they solve problems by using general cultural means created by previous generations. Coming from a different tradition, Bruno Latour arrives at the same principle.

> Everything in the definition of macro social order is due to the enrollment of nonhumans – that is, to technical mediation. Even the simple effect of duration, of long-lasting social force, cannot be obtained without the durability of nonhumans to which human local interactions have been shifted. (. . .) Society is the outcome of local construction, but we are not alone at the construction site, since there we also mobilize the many nonhumans

through which the order of space and time has been reshuffled. To be human requires sharing with nonhumans. (Latour, 1994, p. 51)

Another important methodological discussion concerns the nature of causation and explanation in social sciences. Prigogine and Stengers (1985), among others, demonstrate how linear and monocausal concepts of causation taken from classical physics are unsatisfactory in explaining development determined by multiple systemically interacting elements typical to social and economic phenomena. The new sociology of science and technology tries to get rid of monocausal explanations by introducing the principle of *coevolution* of social, material, and technical factors (Bijker, Hughes, & Pinch, 1987). In a similar vein, Freeman (1994) proposes that an *interactive system model* is needed in studies of innovations, taking into account complex interactions between science, technology, and market, between designers and users of new technology. In developmental psychology, Valsiner (1988) proposes *co-construction* as the central explanatory principle.

To be able to analyze such complex interactions and relationships, a theoretical account of the constitutive elements of the system under investigation is needed. In other words, there is a demand for a new unit of analysis. Activity theory has a strong candidate for such a unit of analysis in the concept of *object-oriented, collective,* and *culturally mediated human activity,* or *activity system.* Minimum elements of this system include the object, subject, mediating artifacts (signs and tools), rules, community, and division of labor (Engeström, 1987; Cole & Engeström, 1993). The internal tensions and contradictions of such a system are the motive force of change and development. They are accentuated by continuous transitions and transformations between these components of an activity system, and between the embedded hierarchical levels of collective motive-driven activity, individual goal-driven action, and automatic operations driven by the tools and conditions of action (Leont'ev, 1978). This kind of explanation makes it possible to include both historical continuity and local, situated contingency in the analysis.

The rise of constructivism has led to justified skepticism regarding ideas of natural determinism and objective representation of facts "out there." However, much of constructivism is quite narrowly focused on the construction of texts. Van Maanen's recent essay on representation in ethnography provides an example.

My reading of the current turn toward text and language in ethnography is governed by a belief that holds rhetoric, broadly defined, to be the medium through which all truths or certainties are established (and shaken). Thus, for example, to look closely at

well-received or persuasive ethnographic texts, to their compositional practices rather than through them, to the worlds they portray is to examine how a culture becomes a substantial reality for a given set of readers and perhaps beyond. (Van Maanen, 1995, p. 13)

Exclusive focus on text may lead to a belief that knowledge, artifacts, and institutions are modifiable at will by means of rhetoric used by an author. Activity theory sees construction more broadly. People construct their institutions and activities above all by means of material and discursive, object-oriented actions. On this view, the rhetorical construction of research texts is much less omnipotent than many versions of constructivism would have us believe. This suggests that the researcher's constructive endeavors may be fruitful when positioned less as stand-alone texts and more as voices and utterances in ongoing dialogues within and between collective activity systems under investigation.

Activity system as a unit of analysis calls for complementarity of the system view and the subject's view. The analyst constructs the activity system as if looking at it from above. At the same time, the analyst must select a subject, a member (or better yet, multiple different members) of the local activity, through whose eyes and interpretations the activity is constructed. This dialectic between the systemic and subjective-partisan views brings the researcher into a dialogical relationship with the local activity under investigation. The study of an activity system becomes a collective, multivoiced construction of its past, present, and future zones of proximal development (Engeström, 1987).

Activity theory recognizes two basic processes operating continuously at every level of human activities: internalization and externalization. Internalization is related to reproduction of culture; externalization as creation of new artifacts makes possible its transformation. These two processes are inseparably intertwined. Roy Bhaskar, elaborating on the notion of emancipatory social activity, comes to essentially the same conclusion.

It is no longer true to say that human agents create it [the society]. Rather we must say: they *reproduce* or *transform* it. That is to say, if society is already made, then any concrete human praxis, if you like, act of objectivation, can only modify it; and the totality of such acts sustain or change it. It is not the product of their activity (any more than their actions are completely determined by it). Society stands to individuals, then, as something that they never make, but that exists only by virtue of their activity (. . .) People do not create society, for it always preexists them. Rather it is an ensemble of structures, practices and conventions that individuals reproduce or transform. But which would not exist unless they did so. Society does not exist independently of conscious human activity (the error