On Mediation

Toward a Cultural-Historical Understanding

Wolff-Michael Roth

UNIVERSITY OF VICTORIA

ABSTRACT. Mediation is a key notion in dialectical approaches to understanding consciousness, thinking, and thought. However, the scholarly literature is replete with uses of the notion that are inconsistent with the dialectical framework within it, which has the specific function to articulate and explain the unit of a phenomenon and the corresponding unit of scientific analysis. The purpose of this paper is to clarify the term and its possible uses in the theoretical and methodological approaches of present-day cultural-historical activity theory.

KEY WORDS: action, consciousness, cultural-historical activity theory, dialectics, inner contradictions, operation

Mediation is a key concept in cultural-historical activity theory, to the point that Vygotsky's (first-generation) activity theory is sometimes referred to as a *mediational theory*. In some scholarly contributions (e.g., on the xmca list)[1] it appears as if everything, every process in human culture, is mediated either by materials tools or by language. If, however, everything is mediated and if the notion of mediation explains *everything*, then the notion no longer makes distinctions, and, therefore, it explains nothing. Yet the adjective expressing the opposite of mediate, immediate—'no intermediary or intervening member, medium, or agent' (Simpson, 2005a)—frequently appears in the writings of activity theorists, from Lev Vygotsky via Alexei Leont'ev to Felix Mikhailov. The purpose of this essay is to contribute to the clarification of the concept of mediation by means of an exploration of its proper application in an evolving cultural-historical activity theory.

Practical cultural-historical activity is the ultimate mediator, because it sublates (integrates, overcomes) all the contradictions that exist within itself and between identifiable, mutually exclusive moments. Concrete,

cultural-historically evolved activity systems also are the smallest analytic unit, which means that they cannot be broken into 'elements,' but rather any pair of analytically identifiable, contradictory 'moments' always are mutually constitutive and therefore cannot be thought independently of each other. The most fundamental contradiction is the fact that activity is not identical with itself (Marx, 1867/1976). Consistent with my grounding in the cultural-historical tradition, I therefore begin with the description of situations from a recently completed five-year ethnographic effort in one activity system (a fish hatchery) that will serve as touchstones for my clarification.

Feeding Fish: In Praxis and in Theory

From the Praxis of Fish Feeding

Scenario 1: During the 1960s, Robertson Creek Hatchery (e.g., Roth, 2005a), like many other salmon hatcheries on the North American West Coast, changed to automatic fish feeders for delivering moist pellets into fish raceways and ponds. The changeover from hand feeding to automatic feeding decreased the amount of manual labor necessary. However, it turned out that automatic fish feeding wasted feed ('Machines feed ponds, humans feed fish!') and sometimes led to severe mortalities, because the fish were not constantly surveyed visually as is normal during hand feeding. The hatchery managers made the (conscious) decision to revert to manual feeding, that is, changed the means of production from machines to human labor. Now, 40 years later, humans still feed the fish in all federal British Columbia fish hatcheries.

Scenario 2: In 2002, one of the fish culturists at Robertson Creek, Erica, exchanged a batch of feed for a feed blower that a fish culturist from another fish hatchery had constructed from a leaf blower. Now, each time she has to feed fish, Erica chooses whether to take the scoop that most other fish culturists and temporary helpers use or whether to take the blower. Her decision is in part mediated by the location and type of container (pond, basin), the amount of feed to be spread, and access possibilities to the fish. Jack, another fish culturist, has decided not to use the sprayer 'because it makes so much noise' and 'because I always did it with the scoop.'

Scenario 3: In exchange for being able to do the ethnographic work at Robertson Creek, I (the ethnographer) offered to help out in the daily chores. One of my tasks was feeding fish. At the time I started my work, the feed blower did not yet exist and I had to learn to feed using the scoop. When I threw my first load of feed, a big a concentrated ball of feed plunged into the water, contrasting with the fine, distributed mist of feed that experienced fish culturists produced. I tried again, and another blob of feed fell into the water, allowing only a few fish to feed. When I asked what I was doing wrong, Jack instructed me, 'Give it a flick with the wrist.' The next time, I concentrated on

the scoop, attempting to 'give it a flick with the wrist.' It took many tries until I was able to 'give it a flick with the wrist' and, as a result, to spread the feed in the way I saw other experienced personnel do it. Now I no longer think of the scoop but watch the fish as the feed falls finely spread in a wide arc onto the surface, intending to find out whether they are hungry and when to stop.

Analysis Using Cultural-Historical Activity Theory

Cultural historical-activity theory (A.N. Leont'ev, 1975/1978) provides us with a language to articulate the events in the three scenarios, because it offers a way of conceptualizing the links between tacit operations, goal-directed actions, and societally motivated human activities (Cole, 1996). In the first scenario, a decision among the producers of juvenile salmon has been made to change the means of production from manual labor to machines. This is a situation similar to the classical cases analyzed in *Capital* (Marx, 1867/1976), where an activity system is changed through the replacement of the means of production. Incidentally, the movement of change in the fish hatchery was opposite to the one during the Industrial Revolution, in that manual labor replaced the machines rather than the other way around.

In the second scenario, as they concretely realize the activity of juvenile salmon production, the fish culturists make a *conscious* decision whether to feed on a particular day using a scoop or a blower. The scoop and blower are different tools employed to realize the goal of feeding fish, one of the many goals to be accomplished in the hatchery. The goal formation is mediated by the conscious deliberation of using one or the other means for fish feeding; and because actions realize goals, the tool has mediated it.

In the third scenario, two different forms of relation can be observed. On the one hand, the ethnographer was conscious of the scoop as he was trying to learn to produce a spread of the feed. In this situation, the scoop as well as the hand and arm position were objects of consciousness. Existing knowledge mediated the moments of reflection concerning the particular ways in which the hand has to be held and moved. On the other hand, after some time, the scoop had disappeared from consciousness as the ethnographer no longer had to attend to it to produce a thin fan of feed. At this point, the ethnographer watched the fish, intending to find out when they slowed or stopped feeding, which would have entailed slowing or stopping throwing feed.

Hegel, Marx, Vygotsky, Leont'ev, and all others working in this line of research first and foremost attempted to understand the development of (individual, collective) mind or consciousness. When these authors write about mediation, it always pertains to conscious activity and its reflection in mind. Thus, 'the activity of the subject, external and internal, is mediated and regulated by a psychic reflection of reality' (A.N. Leont'ev, 1975/1978, p. 75). This reflection is not to be taken literally—like the reflection from a mirror (e.g., Rorty, 1979)—but to be thought of as *participative thinking* (Bakhtin,

1986/1993). What, however, about operations, which are conditioned events, emerging from a dialectic of structures of *material* and *psychological*, respectively?[2] In this situation, the tool no longer stands *between* the subject and object of consciousness; rather, the tool has withdrawn, disappeared from conscious activity altogether. Some scholars suggest theorizing this disappearance as a *fusion* of tool and object (e.g., Nemirovsky, Tierney, & Wright, 1998), whereas others propose the melding of subject and tool that has become *transparent* to consciousness (e.g., Roth, 2003).

We now need to ask whether this latter case, where the tool no longer enters consciousness during action and activity, counts as an instance of mediation. If so, we may run the risk that mediation is found everywhere. But a concept or category that explains everything in fact explains nothing, because it does not articulate difference. It constitutes unity. Knowledge, however, requires categorical difference, because only difference that makes a difference is relative to the cognizing organism (Bateson, 1972).

Cultural History of the Term

Etymology

In English, the terms *mediation* and *mediate* etymologically derive from Latin *mediare*, to be in the middle, to intercede, act as an intermediary. The related noun *medium*, besides centre, midst, and intermediary, also denotes 'the middle term' of a logical syllogism. Marx needed mediation because he was concerned with the self-relation of commodity: 'Marx regards value as the *relation of a commodity to itself*, rather than to another commodity, and that is why it emerges as a living, unsolved and insoluble inner contradiction' (Il'enkov, 1982, p. 266). The exchange, a form and moment of practical productive activity (Marx, 1973, pp. 98ff.; 1867/1976, Ch. 2), mediates and thereby sublates this inner contradiction. For Hegel (1806/1977), the relation of the conscious self to itself, which occurs through the object (the other than Self), also presents an inner contradiction, which, too, is sublated in activity.

Now the verb 'to mediate' is used, for example, to denote events when a person or group acts as an intermediary for the purpose of bringing about agreement or reconciliation. In this situation, the entering of a third party—both external to and standing between the two parties—expands the direct relation between two parties. This is a classical case of mediation that can be denoted by a triangle, which simultaneously relates A and B directly (A–B) and indirectly (A–C–B). We find such a situation in labor relations where, when negotiations between employer (A) and employees (B) are stalled, a mediator (M) might be called in. The mediator talks to both sides in the attempt to come up with, or facilitate the emergence of, a compromise, which the two parties then might negotiate without the presence of the mediator (i.e.,

in an *A–B* relation). The go-between is the mediator; this notion has *mean* as a parallel sense in Old and Middle French (Simpson, 2005b). A *mean* is a middle term, an intermediary, that is, an instrument, agency, method, or tool employed to realize a motive or goal; thus, since Marx, the various forms of equipment, facilities, and structures employed in the process of commodity production are referred to as 'means of production.'

In the example of the mediator as go-between, we also find the grounds for a second sense of mediation that plays a central role in Hegel's work: 'mediation between two poles involves a go-between, some third party, in which both opposites are joined' (Mikhailov, 1980, p. 66). In a statement about the relation between perceiving and perceived, and about the indistinguishable nature of the two, we can find an articulation of the middle term:

> Here, these two sides are moments of force; they are just as much in a unity, as this unity, which appears as the middle term over against the independent extremes, is a perpetual diremption of itself into just these extremes, which only exist in this process. (Hegel, 1806/1977, p. 82 [§ 136])

The new situation involving the mediator constitutes a new system in which the opposing parties can reach an agreement despite their difference. The system is not just the collation of two extremes into a new unit; rather, the unit has to be understood as one that not only is identical with itself ($A = A$) but also different ($A \neq A$). This *inner contradiction* expresses itself *externally* through the two opposites. An aspect of the new system as a whole is the referent for the term *mediation*. An example of this form of mediation as a go-between is the relation of signs and material tools: the similarities and differences between the two are 'subsumed under the more general concept of indirect (mediated) activity' (Vygotsky, 1978, p. 54).

This definition makes it evident that mediation is a process that involves two qualitatively different, even contradictory and negating, expressions of the same unit; the differences are overcome in and through a new level, which sublates and therefore mediates between the differences. We are led thereby to indeterminacy in praxis, such as the gap between plans and situated action (Suchman, 1987) or in the emergence of supermarket mathematics (Lave, Murtaugh, & de la Rocha, 1984). Quantitative difference, however, is difference in degree, and therefore does not involve difference in kind. It does not require mediation; rather, it implies determination (Bateson, 1980).

Hegel

In Hegel's work (1806/1977), the term *mediation* constitutes a triadic relation whereby some whole unit constitutes an inner contradiction: it is both identical and not identical with itself. Hegel articulates this—for classical logic strange and impossible—situation in the subject–object relation. As soon as the subject of consciousness in activity is posited, its negation is also posited,

because consciousness in action always is consciousness *of* something. The subject and object are inherently different; but they are expressions of the *same* consciousness. For Hegel, what mattered was the activity—some say he established an ontology based on the verb—so that consciousness always is the reflection of a process (ongoing activity). In grammar, this relation is expressed in statements with transitive verbs—e.g., 'the fish culturist (*S*) *feeds* the coho salmon (*O*).' Here the fish culturist and the coho salmon are not elements that can be considered independently. The unit cannot be reduced to them although they constitute the unit. *Feeding* implies someone who feeds and something being fed, even though fish culturists may make statements during their daily work that do not involve the subject (e.g., 'The coho are fed') or object ('She [fish culturist] is feeding').

For Hegel and Marx (Hegel, 1806/1977; Marx, 1973, 1867/1976), practical activity is the middle term that mediates between subject and object in the way that, in our analogy, feed mediates between the subject and the object. Hegel was concerned with mental activity; for Marx, the reflection in consciousness of practical labor overcomes the separation of body (world) and mind. Here, the middle term does not stand *between* the two mutually excluding terms but *over* and *against* them: the third term *sublates* the other two. The verb 'to sublate' has been chosen to render the German '*aufheben*,' which has the sense both of 'canceling' and 'transcending.' That is, in mediating, the middle term both cancels and transcends the contradiction of the mutually constitutive and presupposing terms, which, to reiterate, are only external expressions of the inner contradiction of an entity that is both identical and non-identical with itself (e.g., Derrida, 2000/2005). Activity cannot be reduced to the subject of activity or the object of activity, because these terms are mutually exclusive yet constitutive of each other.

For Hegel, the beginning, principle, or absolute as it is initially and *immediately* articulated is the general; a statement such as '*all* animals' expresses the immediate. It is in the transition from the word to the sentence, which constitutes a process of becoming something different, that we find mediation. Mediation is a process occurring on the inside of a unit, which is transformed into its negating opposite; it is nothing other than self-identity reflected into itself. Mediation, therefore, 'is pure negativity, or, reduced to its pure abstraction, *simple becoming*. ... this mediation, on account of its simple nature, is just immediacy in the process of becoming, and is the immediate itself' (Hegel, 1806/1977, p. 11 [§ 21]).

Hegel's main concern is consciousness—which, as the title *Activity, Consciousness, and Personality* shows, is also a main concern for Alexei N. Leont'ev (1975/1978)—a point that frequently gets lost in Anglo-Saxon discussions of issues related to cultural-historical activity theory. Thus, the analysis of the inner structure of activity ought to reveal those relations that are salient in and to the consciousness of the subject. In continental psychology, the point has become the main emphasis in the idea of *Subjektwissenschaft*

(science of the subject), a line of work grounded in Leont'ev but focused on the analysis of the world as it appears in the consciousness of the individual subject (e.g., Holzkamp, 1991).

In dialectical materialism, mediation is explicitly linked to consciousness and to the resolution of contradictions ('*Widerspruch*,' saying against), which, *per definitionem*, are concerned with and appear in mind—as distinct from resistance ('*Widerstand*,' standing against), which is the equivalent of 'contradictions' in material form. A full theory of contradictions and mediation will require the inclusion of resistance, for 'objective resistance in its entirety is the antidote par excellence against the functioning engine of objective contradictions and against a utopian totality in the dialectical material process' (Bloch, 1964, p. 111) and because resistance may lead to the amplification of contradictions. Regarding consciousness, concepts develop in a dialectical process, which becomes possible because 'contradiction appears in reasoning always as a real problem, the solution of which is attained through further concrete analysis of concrete facts, through finding those real mediating links through which the contradiction is resolved in reality' (Il'enkov, 1982, p. 251).

Vygotsky

In contrast to his predecessors and many scholars in the discipline of semiotics to this day, Lev S. Vygotsky takes a developmental stance to sign use and sign production. Accordingly, the mediating nature of signs in adults is the result of an evolution, the exact developmental trajectory of which was unclear at the time. '*This means that sign-using activity in children is neither simply invented nor passed down by adults*; rather it arises from something that is originally not a sign operation and becomes one only after a series of qualitative transformations' (Vygotsky, 1978, pp. 45–46). That is, at some point in individual (and cultural) development, the material body of a sign (signifier) does not have sign function at all; it does not mediate between the individual and the world. The signifier (material) and the signified (mental) are fused and are used separately only after some developmental process.

Vygotsky (1978) provides many examples in which mediated use is contrasted with unmediated (i.e., immediate) use of sign forms, which therefore do not have sign function at all. For example, with respect to signs as mediating memory retrieval, his scheme depicts a series of associations, which may but do not have to guarantee that the subject arrives at recalling the original word (Figure 1.a). Thus, the children in his studies did not use a trapezoid presented with the small base up:

offered as a reminder for the word 'bucket,' but did so after they had turned it around so that the figure resembled a bucket:

Vygotsky (1978) interpreted such results to mean that children treated the 'sign stimulus as a *direct* representation of the object to be remembered' (p. 48, emphasis added). In this situation, signifier and signified are fused— although structural analysis identifies two, functionally different entities there is but one entity. Only when there is a *direct* representation of the stimulus did children remember; word and object are fused into one. In adults, however, any sign may mediate the relationship between an auxiliary sign and the word to be retrieved reliably (Figure 1.b). Even a knot in a handkerchief may allow us to remember something entirely different from a knot and a handkerchief. *Mediated* symbolization was the end result of development in Vygotsky's studies such that, in adults, 'the process of mediated memorizing is so fully developed that it occurs even in the absence of special external aids' (p. 49). Vygotsky summarizes the difference between child and adult in the reverse relation between thinking and recalling: '*For the young child, to think means to recall; but for the adolescent, to recall means to think*' (p. 51).
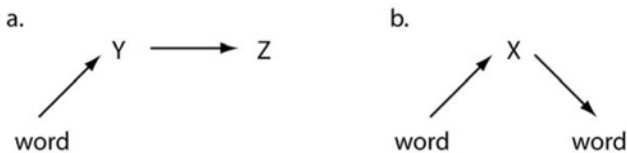

FIGURE 1. a. Precursor of mediated recall. b. Mediation in word recall according to L.S. Vygotsky

Vygotsky's position on mediation with respect to signs appears to be clear. When there is a direct association between two stimuli, between a signifier and a signified, then the relationship is *immediate*, that is, unmediated. Vygotsky lists numerous examples where such direct associations are found in higher animals and children. Unfortunately, he did not express himself about the possibility of finding such direct associations among normally functioning adults. However, there are hints in his work that allow us to infer the possibility that even in adults there are unmediated processes. First, in the comment about the adolescent, recall is subordinated to thinking. That is, recall is subordinated to conscious consideration and reflection. Second, when he compares tools and signs, Vygotsky subordinates both to mediated activity and reason. He explicitly grounds his ideas in Hegel and Marx, both of whom are concerned with reason and the submission of signs and tools to the fulfillment of personal goals. That is, signs *function* as signs, that is, as mediators, when there is conscious reasoning, goal formation, and goal orientation.

One of Vygotsky's students, Alexei N. Leont'ev (1975/1978), contributed to the development of understanding the difference between mediated and non-mediated performances. To do so, Leont'ev introduced the distinction between activity, action, and operation. Activity is oriented toward conscious motives, which themselves have developed in cultural history as the result of division of labor, and which serve to sustain the collective life conditions. Actions, oriented toward conscious goals, concretely realize an activity. Finally, operations '*directly* depend on the conditions of attaining concrete goals' (p. 67, emphasis added). Because they depend *directly* on the conditions, operations are immediate, non-conscious, and therefore non-mediated performances. For Leont'ev, it was of utmost importance to keep operations and actions separate theoretically and analytically—'otherwise we will not be in a position to decide even the simplest problems' (p. 67). It is important to bear in mind that both Vygotsky and Leont'ev, in pursuing the traditions of Hegel and Marx, are concerned with consciousness and therefore with the *function* of signs and tools as mediators of consciousness.

During the process of anthropogenesis, the psychological processes that appear in animals cease to exist, according to Vygotsky. More recent reflection on the part of Marxist psychologists takes a more differentiated point of view (e.g., Holzkamp, 1983). Accordingly, there are many forms of interaction with the environment present in the ancestors of humans (e.g., collective hunting; tool use; and behavioral regulation using sound, gesture, face). Through the concurrent quantitative changes in at least two parameters in the organism–environment relation, the dominant life form changes into a qualitatively new one without nevertheless leading to the cessation of the other parameters.

For Vygotsky (1978) there exists an analogy between tools and signs which arises from the similarity of their mediating function in activity. He draws on Marx and Hegel to articulate the way in which the two forms mediate, respectively, as making use of the special properties to work on the intentional objects, material in the former and mental in the latter case. The two forms, therefore, are subsumed to activity (Figure 2.a). More recent Marxist analyses of production have worked out a more refined scheme, in which linguistic and material production are *homologous* (Rossi-Landi, 1968/1983). The homological schema of production maps sentences and tools (hammers, planes, shoes) at the same level (Figure 2.b). This approach is compatible with the speech act theory developed in the Soviet Union by Alexei A. Leont'ev (1971) on the basis of activity theory that his father had formulated. Similar to speech act theory in the West, A.A. Leont'ev's theory posits that we do things with sentences, such as promising, commanding, insulting, or begging. Sentences (speech acts) are the appropriate level of equivalence, as they also embody intentions (object) and effects (outcomes) that are central to a cultural-historical activity theoretic framing of production.
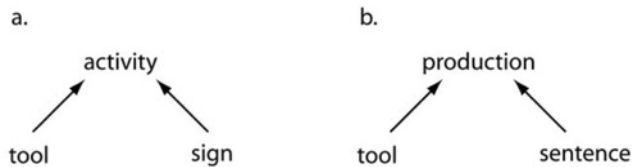
FIGURE 2. a. Vygotsky's scheme of the relationship between sign
and tool, both of which are subordinated to and mediate activity.
b. More recent Marxist scholarship on the relation between
language and other means of production suggests a parallel
nature of tools and sentences.

Equivalencies or, rather, homologies exist both at three levels of units smaller than the tool and sentence—pre-worked as pre-meaningful, initial semi-worked pieces, complete and separable pieces—and at six levels of increasing complexity, including aggregates (composite sentences vs. composite tools), mechanisms (syllogisms vs. bicycles), complex mechanisms (speeches vs. automatic looms), total mechanisms (self-sufficient codes vs. self-regulating machines), non-repeatable production (literary vs. unique prototypes), and overall production (Rossi-Landi, 1968/1983).

Moments of Immediacy

The adjective *immediate* is the antonym of mediate, mediated. It is used in the sense that there is 'no intermediary or intervening member, medium, or agent' (Simpson, 2005a). Under the influence of LSD and other drugs, users have experienced the disappearance of the division between self and music: listener and music become a single perceiving–perceived unit that cannot be decomposed into parts. 'This state is surely more correct than the state in which it seems that "I hear the music." The sound, after all, is *Ding an sich*, but my perception of it is a part of mind' (Bateson, 1972, p. 463). The division between subject and object also disappears when the image of a material object is fixed on the same spot on the retina, an exercise that can be reproduced with some training using a Maltese cross as an object (Roth, 2005b). As soon as the image is fixed on the same spot on the retina, it disappears, and, with it, the subject–object differentiation.

Everyday Praxis

One philosopher concerned with unmediated and mediated relations is Martin Buber (1923/1970). His I–You distinction constitutes an unmediated, his I–It a mediated relation. The I–It relation really takes the form of I–*X*–You, where

the *X* is some sign. The I–It relation is exemplified, for example, in the contemplation of a tree by a person: the relation is external to the tree and the person. It is a mediated relation because the subject of consciousness notices aspects, feels experiences, and recognizes patterns. All of this can be translated into numbers, into relations of numbers, which then constitute forms of knowledge. 'But it can also happen ... that as I contemplate the tree I am drawn into a relation, and the tree ceases to be an It' (Buber, 1923/1970, p. 58). In this case, the tree no longer stands opposite and against the subject, it is no longer an object of consciousness. What the subject encounters in this situation is not the concept of a tree or a tree mediated by a concept; rather, it is the tree itself.

Unmediated forms of experience are reported by athletes who, in a state of flow, are no longer aware of self or activity, where there is no longer a separation between self and doing (Dreyfus, 1991). We find ourselves interwoven with the situation to such an extent that it encompasses us, that we are absorbed into it. The corresponding form of awareness is a form of experience different from theoretical consciousness. The awareness that is part of the flow experience 'can be characterized only as openness. It is not mental, inner, first-person, private subjective experience, separate from and directed towards nonmental objects' (Dreyfus, 1991, p. 68).

A huge amount of our daily lives, however, is in fact spent in a state not unlike flow—getting up, dressing, showering, eating, and so on. Everydayness is ... a mode of being in the world, even and exactly when we are a constitutive part of a highly developed culture (Heidegger, 1977/1996). Flow exists exactly then when isolated units of activity are consolidated, that is, 'objectively attained intermediate results flow one into another and the subject loses conscious awareness of them' (A.N. Leont'ev, 1975/1978, p. 67). The sense of flow is equivalent with the flow of activity, where we lose conscious awareness of the separate parts that constitute its internal structure.

A Paradigm: Blind Man and His Stick[3]

The consideration of tools and their function in concrete activity may advance our understanding of mediation because 'internally moving forces' of developmental processes 'lie in the original dual connection of subject with the world and in their dual mediation, object activity, and social contact' (A.N. Leont'ev, 1975/1978, p. 128). For a blind person, the cane is precisely that which, on some accounts, stands between the subject and his/her world. Martin Heidegger has contrasted equipment that is ready-to-hand and tends to disappear with equipment that is unready-to-hand and becomes problematic and the object of attention. Thus, the fish-feeding scoop in the hand of the ethnographer, though salient while he focused on it to get the flicking motion correct, disappeared from attention as it became ready-to-hand. In use, tools have their distinctive kind of being in the dynamic sense and they cease to be

primarily 'known' objects; they tend to disappear from consciousness and, in a sense, become 'transparent' (Ihde, 1991). In this contrast ready-to-hand refers not to proximity, but to unproblematic usage.

A paradigmatic example that a number of philosophers used to describe the relation of user and tool is the case of the blind person and her cane. The cane is an object that can be picked up and described, yet when it is used by the blind person it disappears from consciousness, in the sense that it is the curb, for example, which the blind person is aware of as the object of issue and contact. The blind person feels the sidewalk at the end of her cane; the grass and the sidewalk reveal their surfaces and textures to her at the end of the cane (Ihde, 1976). To the blind person, the cane has ceased to be an object of consciousness, and is no longer perceived *for* itself. Its endpoint has become an area of sensitivity, extending the scope and active radius of touch, and providing a parallel to sight. Conversely, when an item of equipment is unready-to-hand the opposite happens and, at such times, inspection and practical problem solving occur, aimed at repairing or eliminating the disturbance in order to get going again. In such times of disturbance, our use of equipment becomes explicitly manifest as a goal-oriented activity, and we may then try to formulate procedures or rules. Most importantly, in the consciousness of the blind person, in normal use the cane no longer functions as a middle term, a go-between between the world and the person:

> In the exploration of things, the length of the stick does not *intervene explicitly* and as a *middle term*: the blind man is rather aware of it through the position of objects than of the position of objects through it. The position of things is *immediately* given through the extent of the reach which carries him to it. (Merleau-Ponty, 1945, p. 167)

These considerations lead us to distinguish tools from *structural* and *functional* perspectives. In a structural analysis, the blind person's cane necessarily will appear. It is the structural extension of the arm and hand. From a functional perspective on consciousness, however, the cane sometimes appears and sometimes withdraws. In knowledgeable use, when it has withdrawn from conscious deliberation, a tool neither is grasped theoretically nor is it itself initially thematic to consciousness. 'What is peculiar to what is initially at hand is that it withdraws, so to speak, in its character of handiness in order to be really handy' (Heidegger, 1977/1996, p. 69 [66]). This is just what happened to me as I learned to feed fish: the scoop, to which I had to direct my attention initially, began to disappear, allowing me to direct my conscious attention to other matters. In knowledgeable everyday engagement—i.e., in *praxis*—there is, in a strong sense, no such thing as *a useful thing* ('*Zeug*') or tool. Because the tool withdraws it is no longer *functionally* available to stand between the knowing subject and the intentional object of its activity or action, though structural analysis will always find it at its particular place. 'What everyday association is initially busy with is not tools themselves, but

the work' (p. 69 [65]). In the way that the association is made *in work*, it takes part in the constitution of the activity, which is the mediating term. 'The work bears the totality of references in which useful things are encountered' (pp. 69–70 [65]). Signs also are useful things; their specific character as useful things lies in pointing to or indicating something.

Mediation and Level of Events

To understand the events as a blind person walks along the curb or as the fish culturist knowledgeably distributes feed widely across the pond surface, we need to include all constitutive entities in the situation, that is, the cane and language, respectively (Bateson, 1972). We cannot understand the blind person's locomotion unless we do a structural analysis that takes into account the cane, just as we cannot understand children's problem solving unless we take into account the use of speech. But there is a second level, where the relations change. The children think about the words in their speech—i.e., select them—as little as the blind person is conscious of her cane. That is, from a functional perspective, tools and signs may be present or absent to consciousness and therefore mediate or do not mediate the way in which the current practical activity is reflected in consciousness. To understand why the children and the blind person do this or that, we need to understand what is salient to them in their consciousness: that is, we need to understand intentions and those aspects of their lifeworld that are currently relevant and salient. In this analysis, the cane in knowledgeable use no longer figures: the blind person loses awareness of the cane, being 'aware only of the curb (or whatever object the cane touches); or, if all is going well, he is not even aware of that, but of his freedom of walk, or perhaps only what he is talking about with a friend' (Dreyfus, 1991, p. 65).

Distinguishing Goal Formation and the Formation of Operations

To achieve an understanding of the total flow of activity: 'analysis isolates separate (specific) activities in the first place according to the criterion of motives that elicit them. Then actions are isolated—processes that are subordinated to conscious goals, finally, operations that directly depend on the conditions of attaining concrete goals' (A.N. Leont'ev, 1975/1978, pp. 66–67). Operations *directly depend* on conditions, that is, there is no intermediary and they are not mediated by consciousness—much as articulated by behaviorists in the $S \rightarrow R$ formula. In the German translation of *Activity, Consciousness, and Personality*, the term 'immediate' is used, that is, without mediation, instead of 'directly depend.'

Repeatedly, Leont'ev points out that actions need to be clearly distinguished from operations, because the 'formulation of the operation proceeds

entirely differently from the formulation of the goal, that is, the initiation of action' (A.N. Leont'ev, 1975/1978, p. 66). Actions and operations have various origins, dynamics, and fates and therefore different implications for consciousness and self-consciousness in human life. What needs to be compared are not actions and operations but their formation and formulation. In goal formation, available tools explicitly enter as one of the resources to be considered; operations are conditioned by the context, including the current state of the action, which are constituted by the former. Returning to the paradigm of the blind person's cane, we can say that to get used to the stick—or any other tool—is to be transplanted into it, or, rather, to incorporate it into the bulk of our body (Merleau-Ponty, 1945). At this point, the tool *mediates* our actions as much or as little as all the other parts of our body. The cane is only an extension of the hand and arm. Body parts are an integral and relevant aspect of how we enact a world, but they are no longer present to consciousness. Similarly, the stick shift and even the entire process of shifting gears disappear from consciousness:

> For the consciousness of the driver, shifting gears in normal circumstances is *as if it did not exist*. He does something else: He moves the car from a place, climbs steep grades, drives the car fast, stops at a given place, etc. (A.N. Leont'ev, 1975/1978, p. 66, emphasis added)

Leont'ev also notes that the operation of shifting may be carried out automatically, as is the case in cars with automatic gears, so that the operation becomes embedded in the machine (tool).

The very efficiency of operations lies in their immediate nature, executed in response to the current condition rather than being mediated by something else, such as consciousness, which would make their execution slower by orders of magnitude (Kirsh, 1995). Whereas Vygotsky held internal sign-mediated performances to be developmentally superior to external performances, it could be shown empirically that highly competent Tetris players physically acted first 'to cue recall, to speed up identification, and to generate mental images faster than they could if unaided' (Kirsh, 1995, p. 62). Here, the operations aided in the formation of a reflection of reality, rather than the reflection of reality mediating the engagement of the players in their world.

Because operations are not mediated in consciousness but *determined* by conditions, they also lend themselves to be incorporated into tools (means): The non-coincidence of actions and operations is evident in instrumental actions, whereby the tool is a material object in which operations, not actions, are crystallized (A.N. Leont'ev, 1975/1978). It is important to understand that the execution of operations takes a very different trajectory than goal formation, that is, the initiation of actions. The difference lies precisely in the fact that goal formation—e.g., taking the scoop or the sprayer to distribute the fish food—is mediated by the tools available in consciousness, whereas operations unfold *determined* by the reigning conditions. The advantage of

operations is that they do not require consideration; they unfold in response
to the current conditions.[4]

Partitioning

Central to the activity theoretic approach is mediation: activity 'is a unit of
life, mediated by psychic reflection, the real function of which is that it ori-
ents the subject in the objective world' (A.N. Leont'ev, 1975/1978, p. 50).
Such *orientation*, however, occurs in consciousness distinct from those
processes that arise conditioned by the context: 'psychic reflection comes
about as the result of splitting life processes of the subject into processes that
carry out his direct biotic relations and "signal" processes that mediate them'
(A.N. Leont'ev, 1975/1978, p. 87). Here, Leont'ev directly links mediation to
reflection and biotic relations that are immediate. To make a distinction
between the action and operation levels, between structure and function, we
need to find the loci for appropriate partitioning.

   To speak about mediation and non-mediation at all, we require a partition
into subject and object (self–other, I–You) or subject, object, and tool
(I–It–tool). The partitioning problem has considerable history in the sciences,
especially in physics, and social sciences, but generally is not addressed explic-
itly. The question about where to partition observer, experimental set-up, and
phenomenon can be illustrated in a thought experiment ascribed to the Danish
quantum physicist Niels Henrik Bohr (Devereux, 1967)[5]. An object is explored
by means of a stick. If the stick is grasped firmly, it functions as an extension
of the human body—as the blind person's cane in other philosophers' examples
discussed here. The locus of the partition between observer and observed, there-
fore, is at the other end of the stick, the place where the blind person touches
the curb. On the other hand, if the stick is held loosely, it is perceptually not part
of the person holding the stick, and the separation, therefore, is made at the
proximal end of the stick. Psychologically, the two situations are also different,
because the former situation (firmly held stick) primarily yields kinesthetic
data, whereas the latter situation primarily yields tactile ones (Devereux, 1967).

   We can now think of mediation as occurring in the latter case, where a stick
is part not of the person but of the surrounding world; the second partition can
be made conceptually where, in a firm-stick case, the blind person/cane ends
and the world observed begins (e.g., curb). When the cane is firmly held and
recedes from conscious activity, the blind person has immediate access to the
world, sensing it and, in sensing it, giving it particular shape. If the blind per-
son holds the cane loosely, the partition is felt at the hand, and she becomes
aware of the cane as cane, psychologically as much part of the outside world
as everything else that is surrounding her. In this situation, the cane mediates
the access to the world, but the access to the world has become very different.

   Among all the partitions that can be made, the psychologically relevant
one is that at which the subject says, 'and this I perceive' (Devereux, 1967,

p. 284). This exclamation is the product of a disturbance of the observer system that allows us to identify boundaries, because it does not occur inside or outside but at its exact boundary: 'it is, in fact, its boundary' (p. 302).

The two different modes of access are commonly experienced by athletes— e.g., golfers, tennis players—who attempt to change their play by holding or moving their implement in a new and different way. Thinking about the club or racket, the players generally experience a worsening of their play before it begins to improve as their consciousness comes to focus on the play again rather than on the implement. In this situation, the play improves with the successive recession and ultimate disappearance of the implement from consciousness.

Signs and the Question of Mediation

Signs frequently are used to make reference to the mediated nature of human communication. Despite the warning that the true character of signs is found only in their use (Wittgenstein, 1958/1994), many scholars take an intellectu- alist perspective, which inherently leads to a mediational character even if there is no mediational process in the reflection of reality in consciousness (a conflation of the structural and functional aspects). But the signifying nature of some sign—i.e., its function—cannot be grasped when we stare at it and note that it is indicating something (Heidegger, 1977/1996); the nature of the sign is even less apparent when we begin to wonder what it *means*, that is, when we attempt to interpret it. When a sign is grasped *as* something that stands for something else, it is understood as standing *between* the subject and the something else it refers to. However, the fact that a sign refers to some- thing else, the indicating function, precisely is not the ontological (i.e., func- tional) structure of the sign as something useful. The turn signal or brake light of a car can be used as paradigmatic examples.

In everyday situations, a flashing turn signal or brake light makes us stop, step aside, or step on the brakes, depending on whether we are drivers or pedestrians. Stopping, stepping aside, and braking are integral aspects of cir- cumspect being in the world, as subjects oriented to the currently salient object-oriented activity and actions. In such situations, we do not see the turn signal *as* turn signal or the brake light *as* brake light—i.e., we do not see them *as* signs. That is, sign and situation are fused from a functional perspective just as they were for the children in Vygotsky's research (1978), though they can be separated in a structural analysis. Rather, in absorbed coping with the everyday world, we take note of a turning or slowing car. The specific char- acter of signs in everyday use is that they disappear; but in the process of dis- appearing, signs allow '*a totality of useful things to circumspection so that the worldly character of what is at hand makes itself known at the same time*' (Heidegger, 1977/1996, p. 80 [74]). What is at hand, however, is the turning

or slowing car. In everyday cognition, therefore, the sign works when it no longer stands between the relevant aspect of the world and ourselves, when, in withdrawing into the indeterminate ground, it allows the relevant aspect to be *im*mediately—*without* mediation—evident. Similarly, the knot in a hand-kerchief is useful precisely when we remember the thing rather than when we see the knot as a knot wondering what it is to remind us of. With respect to everyday cognition, the sign realizes its function precisely at the moment when it makes available to consciousness some relevant aspect of the activity all the while as it withdraws into the indeterminate ground.

In his analysis of children in problem-solving tasks, Vygotsky (1978) con-cludes that children tend to speak while they act, and that this speaking medi-ates the way in which they go about enacting a solution.

> Their speech and action are part of *one and the same complex psychological function*, directed toward the solution of the problem at hand. The more com-plex the action demanded by the situation the less direct its solution, the greater the importance played by the speech in the operation as a whole. (pp. 25–26)

Vygotsky (1934/1986) also notes that there are vast domains of thought—such as manifested in tool use particularly, and in practical activity more gen-erally—that have no direct relation to speech. If language functions as a tool in some respects, then there are aspects of language that are different from speech and more like tools—such as the blind person's cane.

The analysis of language is usefully accomplished by drawing on the dis-tinction of artifacts (tools, modes of social organization, bodily skills, signs, language) into three types (Wartofsky, 1979). Primary tools are extensions of the human body 'created for the purpose of successful production and repro-duction of the means of existence' (pp. 200–201). The use of language for communicative purposes during productive activity makes it a primary arti-fact. As such, the sounds we produce exist in a primary association among all other things that exist in the situation at hand. The sounds (language) exist and have any significance at all not because they exist for themselves or the mere pleasure of their producer, but because they are integral and constitutive aspects of the production and reproduction of life-preserving processes.

There are more functions to language, however. It also serves, alongside other forms, as a class of 'distinctive artifacts created for the purpose of *pre-serving* and *transmitting* skills' (Wartofsky, 1979, p. 201). That is, language not only serves the primary function of communication in productive processes but also the secondary function of representing and transmitting skills, including speaking, literacy, and so on.[6] The difference between lan-guage as a primary and secondary artifact lies in the different functions it serves: in the former, it contributes to making praxis successful, whereas in the latter it serves a representational function. Only in the latter use does the separation between knowledge and object of knowledge, and therefore medi-ation, occur (Mikhailov, 1980), consistent with the difference between the

I–You and I–It relation (Buber, 1923/1970). To work out the differences between the two, I return to a phenomenological analysis of everyday discourse, which is used for making statements.

There are three significations to making statements (Heidegger, 1977/1996). First, in making statements, we primarily point out, highlight, an aspect otherwise part of the indeterminate ground over and against which activity takes place. In stating 'this hammer is too heavy,' I do not communicate 'meaning' but allow a particular being to appear in its mode of being. This mode is directly relevant to the successful completion of the current activity, and, therefore, language (discourse) functions as a primary artifact. The second function is grounded in the first. Here, the statement 'this hammer is too heavy,' the being of the hammer, which is the subject of the sentence, is narrowed and constrained by the predicate 'too heavy.' It is in this contraction of the hammer as thing to the hammer as subject of the statement that the possibility of any determination arises. In this, discourse has the same function as the earlier discussed sign as primary artifact, which allows a particular aspect of the present moment to become salient (turning car, slowing car, heaviness of hammer). It is the articulation of intelligibility.

The third signification of making statements is communication, speaking forth. Etymologically, communication means to make common, to share. It means letting others see what is already in common, shared. As communication, the stated can be shared even if the subject of the predication (e.g., the hammer) no longer is present. Statements therefore can be passed along by means of retelling. In this mode, therefore, the phenomenological analysis rejoins the Marxian of language as secondary artifact useful for the synchronic and diachronic reproduction of knowledge. This is not always the case, especially early in anthropogenesis, among some indigenous cultures, and in children (Vygotsky, 1934/1986). In these situations, the statement and the subject of the predication are one—to members of these groups, the articulation 'hammer' and the physical object hammer are aspects of the same situation. When a parent says 'Hammer!' while pointing to an object, it allows the young child to orient toward the object hammer rather than to the ball, chair, or table. Sign and signification are the same. However, the power of language as mediating device is realized precisely in the splitting between sound (utterance) and the relevance relation. This is when '[m]an at last learns to see the object in the object, to treat it as it deserves and demands, and not as the conservative experience of the species, morphologically and functionally fixed in the organism' (Mikhailov, 1980, p. 198). The splitting of the two is made possible by the bodily nature of human being and requires the emergence of consciousness and therefore the self-discovery of the subject as singular plural (Nancy, 2000).

Speaking, using tools, building houses, and so on, do not really constitute the difference between humans and nonhumans—animals, too, communicate by means of sound, make and use tools, and build nests. What is required is

the use of artifacts in their secondary mode, because only in this mode can individuals look at them from the side and therefore pose the question about their own consciousness (Mikhailov, 1980). Marx hinted at this fact when he says that the division of labor, which is an acquired ability to separate oneself from one's activity, only becomes truly itself when the division of material and mental labor occurs (Marx & Engels, 1845/1970). The latter requires language in its secondary mode or, in other words, the third feature of discourse as telling (making statements).

The Birth of Signification

Vygotsky clearly notes that children neither discover the adult *function* of signs nor receive it from their elders; rather, the adult sign function emerges from previous uses of the signifier, which initially is merged with the signified. Despite Vygotsky's warning, many researchers appear to focus more on forms of cultural transmission and on the structural aspect of signs. It may therefore be of benefit to look at 'the development of higher psychological functions' by studying 'their prehistory, their biological roots, and their organic disposition' (Vygotsky, 1978, p. 46). Such categorical reconstruction of psychological functions from their biological origins has become the core lesson taken by the Berlin school of critical psychology, which built its program on A.N. Leont'ev (e.g., Holzkamp, 1983).

From the perspective of a dialectical phenomenology, the present-day cultural-historical (adult) sign function is possible only when an individual is conscious of being surrounded by other, like individuals. The resemblance between the other's material body and a person's always arises from having access to the former first, never after. The resemblance on the basis of which the other is constituted presupposes the constitution of the other (Franck, 2001). It is out of the shift of the present with respect to itself, the separation of sign and signification, the intended and the intention, that consciousness has access to the non-conscious, even has its origin in the latter. This separation leads to another one in the use of the sign, whereby the body mediates the separation of sense and what is sensible, the material body of the sign, that is, between signifier and signified. But this initial shift, which leads to the recognition of one's own body as a body among bodies, presupposes the generalized other, who is co-essential with me, and co-originary of meaning (Nancy, 2000). 'The presence of others is necessary, because no single subject could even designate *itself* and *relate itself* to itself as subject' (Nancy, 2000, p. 40). Fundamental, therefore, to any signification is the condition of being as being-with; this 'with' is neither mediate nor immediate (Levinas, 1947/1998). That is, prior to consciousness—from a phylogenetic or ontogenetic perspective—it makes little sense to speak of mediation, which always is mediation of consciousness.

Hegel's explanation of the developing consciousness ultimately failed because it posited the subject of consciousness, and, with it, its negation, the object of consciousness; it also posited the process of mediation, thought to bring about the development as consciousness overcomes the inner contradiction between the knowing subject and its object of knowledge. Recent work in phenomenologically oriented philosophy offers a solution. Thus, 'Prior to "me" and "you," the "self" is like a "we" that is neither a collective subject nor "intersubjectivity," but rather the immediate mediation of Being in "(it)self," the plural fold of the origin' (Nancy, 2000, p. 94). In this approach, the 'with' itself is mediation, because it allows permutation without the other, on its inside. It is mediation without mediator: 'Mediation without mediator mediates nothing: it is the mid-point, the place of sharing and crossing through; *that is, it is place* tout court *and absolutely*' (pp. 94–95). It is out of proximity that predates all consciousness, proximity that implies the plurality of singular not-yet being, that individual and collective consciousness emerge simultaneously, without initial mediation.

The emergence of consciousness at the individual level and its integral relation *being-with* has been demonstrated in a series of experiments conducted by the Russian psychologist Alexander Meshcheryakov (Cole & Levitin, 2000). Deaf-blind children, who frequently did not achieve mental development and failed to learn to walk, eat, drink, and so on, developed as any other children when they were allowed to find (become conscious of) themselves in activities with other children and adults. For example, the teacher might lead one of the deaf-blind children to other children already playing, allowing the former to feel the latter's movements and objects they were playing with. Furthermore, the teachers also allowed these deaf-blind children to discover themselves, their own bodies, by interacting with dolls and leading the children to discover resemblances (correspondences) between other bodies and their own. It is in the process of hundreds of such learning episodes that the children discovered that there are significations separate from particular signifiers.

Toward a Dialectical Solution

So far we noted that there are moments when tools mediate consciousness during the formation of goals that realize an activity; we also noted that there are moments when tools and signs do not mediate consciousness, because these, as part of realizing operations, tend to disappear and become part (extension) of the body. The history of dialectical philosophy shows that such contradictory situations often are outer expressions of an inner contradiction, which can be resolved by finding the middle term of which the outer, one-sided expressions are irreducible forms. We return to G.W.F. Hegel, who already discussed the role of the hand in human activity (*Tätigkeit*).

First, for Hegel (1806/1977), the hand is an expression of the inner, because it is the means by which the human subject manifests and realizes itself; or, rather, it is the inner itself, because it is through the hand and other organs that the inner is realized as such.[7] Not recognizing the inner and outer aspects of activity: 'Sartre fails to see that there are parts of the body [organs] which are simultaneously perceived both "from within" as something belonging to the given being, and "from without" as objects incorporated in the world of material objects' (Lektorsky, 1980, p. 111). Etymologically, the notion *organ* derives from the ancient Greek term *organon*, tool, instrument, and, more generally, 'that with which one works' (Simpson, 2005c). The hand and other organs are but tools that some capacity gives to itself; but they are tools at the service of a capacity that predates them (von Uexküll, 1928/1973). The function, therefore, predates the particular structures. In doing something, the hand realizes an action that achieves a goal intended by the 'itself.' Second, the hand (and other organs) is more 'for the other' than for the subject itself; its ontological nature is one of *being for the other*. As such, it corresponds to that which realizes deeds that no longer are part of *being for itself*, as the deed (result of action) is external to *being itself*.

Organs are important, as they play an important mediating function between mind, culture, and activity: 'objective activity, just like psychic images, is not produced by the brain but is its function, which consists in the images realized by means of the physical organs of the subject' (A.N. Leont'ev, 1975/1978, p. 73). They are important because social relations into which people enter are realized by 'their brains, their organs of feeling, and their organs of action' (p. 19); and 'these relations also lead to the acceptance of objects in the form of their subjective images *in the head of man, in the form of consciousness*' (p. 19, italics added). However, the analysis of the *structure of an organ*, in its original or extended form, does not allow us access to mediation; it 'has no right to present itself as a description, however approximate, of the *function* that the organ performs, as a description of the *real thing* that it does' (Il'enkov, 1977, p. 45). For Marx, therefore, the body is as external to consciousness as the stick used by the blind person: 'As regards the natural, material organisation of the human body it has the same external character as it does in regard to the material in which it is realised and objectified in the form of a sensuously perceived thing' (Il'enkov, 1977, p. 260). The hand, too, not only is given to humans but is also a product of their activities, in response to which the hand has changed; it therefore would be arbitrary to make a separation between hand and the stick for the purpose of defining mediation. With respect to communication, the functional existence of symbols absorbs their material existence, which means they can be replaced by another symbol (Marx, 1867/1976).

Inner and outer appear to fall apart, as the hand and action it accomplishes are part and expression of the subject; but the action and the deed it accomplishes are merely external. Here, then, the organ must be taken structurally

as the *middle term* of both inner and outer. Without organs specifically and without a body generally, there is no consciousness. However:

> … this middle term and unity of inner and outer is in the first place itself external too. But then this externality is at the same time taken up into the inner; as *simple* externality it stands over against the dispersed externality. (Hegel, 1806/1977, p. 189 [§ 316])

In this way, tools are attended to consciously in the formation of goals or employed nonconsciously when they have become transparent in our action and therefore are part of the mediated and mediating relationship between inner and outer. In the first instance, they are 'reflected' in consciousness as other part of the outer world, mediating what and how the subject intends to realize the current activity. In the second instance, tools have become an extension of the hand (or other organ), again participating in the dialectic of the inner and outer. They are part of the visible–invisible dialectic with reversed polarity.

For Hegel (1806/1977), through the hand, the inner was a '*visible* invisible' (p. 190). The hand, as organ, is but a tool among tools. For the blind person, the cane is but an extension of the hand and arm, which are already tools that the body gave to itself to realize the capacity of reaching out, touching, and sensing. Tools, when they have faded away, are an *invisible* visible, something visible that has become transparent to consciousness, which consciousness does not perceive; but they also, as the hand, make *visible* the invisible. The dialectical nature of tools therefore expresses itself in their function to serve consciousness, being-for-itself, and to realize consciousness in the world, being-for-an-other. They concurrently are visible and invisible, mediate and immediate, inside and outside.

Coda

The definition of the concept of mediation in terms of its contribution to what is present to consciousness assists us in the identification of the difference between what is action and what is operation, a difference that is crucial in the analysis of activity. In the analysis of conscious activity, tools and signs are present both structurally and functionally; in the analysis of operations, tools and signs are present only in the structural analysis. The internal relations of an activity—in the way it is reflected in consciousness—are made in terms of what is salient or not salient, what some artificial intelligence researchers call an analysis of the lifeworld. The proper analysis requires an attention to the kinds of relations, and relations are either mediated, when a third entity enters between subject and object, or unmediated, when a process unfolds without the appearance of another entity between subject and its agency. Ultimately, we need a notion of mediation that can itself be explained in a cultural-historical way, that is, as having emerged at some point in the natural or

cultural evolution of humankind. As shown here, it can be grounded in having a body and in collective life, both of which can exist prior to consciousness because they do not require consciousness but rather give rise to it.

Notes

1. The xmca list is the mailing list for the *Journal of Mind, Culture, and Activity*, and can be found at: http://dss.ucsd.edu/mailman/listinfo/xmca
2. The dialectic is expressed differently by other dialectical social scientists. Bourdieu (e.g., 1980/1990) would say that the dialectical relation involves *habitus* and *field*; dialectical sociologists (e.g., Sewell, 1992) might say the fundamental dialectic is based on *schema* and *resources*.
3. Using the male pronoun, I reproduce the gender in the historical discussions of the phenomenon without implying that only blind men use canes.
4. There are further reasons why the present approach is theoretically advantageous: the structure–agency dialectic pays insufficient attention to passivity (we do not intend our intentions but receive them), which is a constitutive element in understanding human being in the world generally and consciousness specifically (e.g., Nancy, 2000).
5. Georges Devereux might be of interest to this community, because he was an ethnopsychoanalyst and ethnopsychiatrist, and his concerns therefore inherently addressed problems from a cultural perspective.
6. Language also is used as a tertiary artifact, useful to theorize activities, but for the present discussion only the first two levels will be considered.
7. Some readers may think that Marx, Vygotsky, and Leont'ev were not concerned with the inner (intrapsychological) and outer (interpsychological) or that this distinction does not concern mediation. These readers need to consider that Marx frequently writes about the exteriorization, alienation, and estrangement of the subject during the productive process; and the world becomes subjectified at the same time ('The person objectifies himself in production, the thing subjectifies itself in the person' [Marx, 1973, p. 89]). In educational psychology, Vygotsky's work is above all cited for the social nature of the mediation that bridges the intrapsychological and interpsychological. Finally, activity is the unit that sublates all moments that can be identified, including inner and outer, or reflection of reality and the process by means of which the reflection develops and presents itself (A.N. Leont'ev, 1933/1989). None of the inner contradictions is more real than any other.

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WOLFF-MICHAEL ROTH is Lansdowne Professor of Applied Cognitive Science at the University of Victoria. He conducts extensive (three- to five-year) ethnographic studies in schools/universities and everyday professional contexts

(scientific research, environmentalism, fish hatching), focusing in particular on scientific and mathematical cognition from psychological, sociological, educational, and linguistic perspectives. He is editor of *Mind, Culture, and Activity* and co-edits *Cultural Studies of Science Education* and *FQS: Forum Qualitative Sozialforschung/Forum Qualitative Social Resarch*. ADDRESS: MacLaurin Building A548, University of Victoria, Victoria, BC, V8W 3N4, Canada. [email: mroth@uvic.ca]