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## EDITORIAL

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# Martin Heidegger Comes to the Support of CHAT Researchers

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The true principle of order has its own content matter, which is never found in, but is already presupposed by, ordering.

(Heidegger, 1977, p. 52)

During this past summer (2009), I took time off to recover at the beach and to read some of the books that I have always wanted to read but have not had time for. During my reading I became aware of the fact that a great deal of French philosophy in the late 20th century was picking up on and working out ideas—including the much misunderstood problems of **difference and Being**—that the German philosopher **Martin Heidegger** had articulated in the first part of the century. Heidegger was a close and careful reader of such philosophers as Friedrich Nietzsche, Georg F.W. Hegel, Immanuel Kant, Plato, and Aristotle. As I was reading and re-reading some of the major works of these philosophers, in particular *Sein und Zeit* (*Being and Time*) and *Was heisst Denken?* (*What is Called Thinking?*), I realized that Heidegger has a lot to say that can assist researchers employing cultural-historical activity theory (CHAT) to address the problems of consciousness, cognition, and the analysis of everyday activity in schools, at the workplace, and during leisure time (e.g., play). **In the introductory quote from Heidegger, we see a crucial distinction—also familiar to ethnomethodologists—between two forms of consciousness that many CHAT researchers forget in the analysis of the systems they are concerned with: the consciousness of the subject of activity of interest (e.g., students, workers) and the consciousness of the researcher. The order we find in mundane everyday pursuits arises from the activity as a form of life, and this order cannot be found by ordering one’s observations of the activity. Rather, any order that arises from observations already presupposes the principles that produce the order. Any order always precedes our understanding of the order,** because—as I came to understand from Heidegger’s (1954) analysis of thinking—there is a gap between the

present and the presence of the present, a gap that Plato, Heidegger, and Jacques Derrida name *khora*.<sup>1</sup>

Heidegger's analyses of cognition in everyday life have already been used among researchers interested in workplace design and cognition at the workplace, particularly during the 1980s. But, unfortunately, this important research has not been taken up by or had influence over CHAT research generally, nor CHAT education research specifically. This work-oriented research pointed out that whereas the means of production (tools) mediate activity, they exist in the consciousness of users in a different way than in the consciousness of the onlooking researcher. This distinction is rarely made in the existing CHAT literature. Heidegger distinguishes between tools that are ready-to-hand (*zuhanden*)—that is, tools that are used, but not consciously, by the user—and those that are present-at-hand (*vorhanden*)—that is, tools that are consciously attended to by the worker or researcher—and this distinction is central to both these lines of thought (Heidegger, CHAT). Thus, “it is proper use that brings the thing used into the way it is and keeps it there” (Heidegger, 1954, p. 114). This distinction is relevant to CHAT researchers; however this distinction is not frequently made in studies of knowing and learning. Because of this, **it seems as if the way tools appear in the consciousness of the researcher is the same as how tools appear to the worker.** Such a conception of cognition as characteristic of everyday life has been debunked by Alfred Schutz, whose work, contemporaneous with that of Heidegger, influenced the emergence and character of ethnomethodology. In the following I outline some of the fundamental similarities between the approaches to cognition in Heidegger's (1977) *Sein und Zeit* (*Being and Time*) and CHAT, for the purpose of articulating how drawing on this author might assist our community in its endeavor to describe knowing and learning from an activity-theoretic perspective. To exemplify the theoretical concepts used here, I draw on a study of environmentalism that I have conducted for more than a decade in my municipality (Central Saanich, British Columbia).

One of several environmentalist groups has taken Hagan Creek, its tributaries, and the entire watershed that it empties as its object. Following the colonization of the area by White settlers in the 19th century, the aforementioned wetlands were drained (by converting the creek and its tributaries into ditches) to create farmland (Figure 1, top). In the winter ample rainwater was rapidly carried away before it could soak into the soil, thereby replenishing the groundwater levels. The changes turned the creek into a mere trickle during the summer months when there is very little rain and no water left in the local aquifers. The leveling of trees has led to increases in the water temperatures and decreased oxygen levels, making the once trout-rich creek an uninhabitable zone. Farm run-offs and industrial wastes further decreased the environmental health of the creek specifically, and the entire watershed more generally. The Hagan Creek Project was created to increase the creek's environmental health and water conditions, as well as to bring the trout back from near extinction. The vision was to return the creek, or as much of it as possible, to the state that it had been in at the time of colonization (Figure 1, bottom).

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<sup>1</sup>I articulate the gap to lie between the present and the presence of present because English does not have the distinction between two forms of being that the Greek (*eon, emmenei*), the French (*étant, être*), and the German (*Seiendes, Sein*) have available. *Khora* is the space that creates and therefore lies between the pairs of terms that in truth are one. In English, the first form is often translated as *beings* and the second (capitalized) as *Being*.

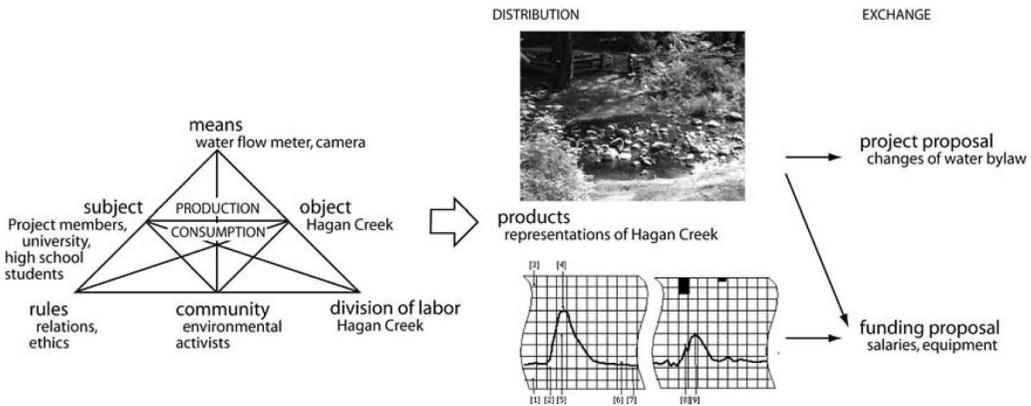


FIGURE 2 An activity-theoretic representation of Hagan Creek-focused environmentalism highlights certain structural features and the role of future use of products in the shaping of consciousness associated with production.

CHAT emphasizes that what the environmentalists do needs to be understood in terms of an encompassing **unit: productive activity** (*Tätigkeit, deyatel'nost'*). For the environmentalist, the ultimate motive is to change the watershed such that it is healthier than it is presently. Whereas such activity may be analyzed in terms of the structures it contains, none of these structures can be understood as elements that make the unit in the way compounds are made from elements. To use the Hagan Creek-focused environmentalism project as an example, although we can identify subjects (the environmentalists, the students and community folk assisting them), the tools they use as part of their work and the division of labor (Figure 2) cannot be understood independently of the activity as a whole—if we begin with the whole as the **irreducible unit of analysis**. The point is to understand what the environmentalists do and why they do it, which is given by **the collective motive that they subscribe to. This goal requires us to understand what is present in the consciousness of the environmentalists, which is a concrete realization of collective consciousness** (literally knowing together, from Lat. *co(m/n)-*, together, with + *sciere*, to know). Thus, although they might consciously choose a camera to take pictures of the creek for inclusion in grant applications or in making a pitch for a project to the town council, when they take pictures they are not thinking at all about the buttons to push or about the working of the camera. They are *taking pictures*, and to do this they focus on possible targets. They are oblivious to the camera, which is, to use Heidegger's term, a tool ready-to-hand (*zuhanden*) rather than apparent in their consciousness, which would be denoted by the term present-at-hand (*vorhanden*).<sup>2</sup> For

<sup>2</sup>Heidegger used words in which the hand appears—*zuhanden* and *vorhanden*—because the hand plays an important role in his way of thinking about knowledge. Thus, he described thinking as “hand-work,” thereby bringing the process down to earth rather than leaving it in the immaterial realm of the metaphysicians. Heidegger therefore does not have the grounding problem—how knowledge connects to the world—that cognitive scientists continue to wrestle with. The gap between *zuhanden* and *vorhanden* again is due to *khora*, the space between the present and the presence (in consciousness) of this present.

those who use them, tools tend to be **present-at-hand only during moments of breakdown**—when they do not work, when something has gone wrong, when they teach a newcomer, during leisurely reflection, and so on.

The fact that activity systems are oriented toward the production of some outcome has been insufficiently attended to by researchers interested in learning in schools.<sup>3</sup> For example, the **environmentalists produce photographs of the creek and graphs** of the water quantity in the creek. This product of the activity initially leads to an accumulation and differential distribution of the outcomes within society at large. These outcomes are exchanged with other activity systems (Figure 2, right) and thereby lead to a redistribution of the products that the environmentalists temporarily stock in their offices. The photographs and water quantity graphs are then used as data (or as records of past activities) in funding applications, in applications for further projects within the community, or in applications for changes in the Official Community Plan (bylaws). Once they are applied, these outcomes “travel” to some other activity system, which, in exchange, returns funding or permission letters. In some instances, a product may be reintroduced into the system itself, for example, by using photographs and graphs to constitute a historical record of the activity to be kept within the activity system.

Heidegger is concerned with understanding how the world appears to human beings in two modes: (a) how the world is present to them (e.g., by means of re-presentations) and (b) how this presence relates to the present world itself. **The key concept is *Dasein*, the term for being (*das Seiende*)—that in each and every case, I am.** The fundamental mode of *Dasein* is *Being-in-the-world*, which constitutes the structure of **that which is (i.e., of what is present in consciousness** of *Dasein*). In looking at some active process, we cannot understand Being independent of its (life-) world, or the world independent of Being and its project. Being-in-the-world is an irreducible unit, and the erasure of this unit and its structure is always motivated by metaphysical concerns. **Being-in-the-world therefore is equivalent to the activity system in CHAT; the system as a whole determines consciousness.** Therefore, trying to understand what the environmentalists know by testing them on their camera skills or graphing skills in a classroom or psychology laboratory where they are disconnected from their everyday world makes no sense (and yet **numerous so-called CHAT studies**, particularly those concerned with school learning, engage in such practices). **The relevant context for understanding consciousness, knowing, or learning is the CHAT activity/Heideggerian project itself.** Scientific knowing about the entities that make the world *is a derivative* of, always already based on, this fundamental, practical understanding that comes from participation in the world. Therefore, this fundamental, practical understanding is a prerequisite for any scientific understanding. Both phylogenetically and ontogenetically, everyday practical understanding precedes and constitutes scientific understanding.

**Ontologically understood, *Dasein*—which is always a *Mit-Dasein* (being-with)—is essentially care/concern (*Sorge*).** Everything *Dasein* does is shaped by the fact that it is oriented toward care, which, for the environmentalists, is the health of Hagan Creek and the watershed it empties. In CHAT terms, care/concern is equivalent to the collective motive of the activity. To understand **what *Dasein* knows** and how it knows, we have to take **its point of view**, characterized by its way of being-in-the-world oriented toward the relevant care/concern/motive. Heidegger repeatedly and insistently emphasized that what is necessary to understand consciousness,

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<sup>3</sup>This product is not knowledge, for specific new knowledge *cannot be* an intended target precisely because it is unknown. This is why knowledge-producing research is always uncertain.

cognition, and decision making is the structure of the world *within* this mode of being, the perspective from *within* this world (*innerweltliche*). This is precisely the subject orientation of CHAT that Klaus Holzkamp has developed based on A. N. Leont'ev's work. If we take the outside perspective on knowing—the perspective taken by traditional psychologists, cognitive sciences, and some CHAT researchers when they use the triangle representations including that shown in Figure 2—then we are confronted with the question of how what a subject knows is connected to the world. From within the world of Dasein, this is a pseudo-problem, as all (re-) presentations are always already related to the world, arise from our knowledge of the world. Thus, for Heidegger (1954), thinking/thought integrates the innermost and outermost of the person to such an extent that **a distinction between an inside (mind) and outside (world) no longer is useful.**

In its pragmatic engagement oriented toward care, Dasein employs stuff (*Zeug*).<sup>4</sup> But, Heidegger emphasized that stuff, in a strong sense, never is. It can be understood only within a totality of stuff characterized by an in-order-to (*um-zu*) structure that arises from care—this is equivalent to the object/product orientation of productive consciousness in CHAT. To understand what the environmentalists do and why, it does not help us to use a scientific analysis of their tools (such as their camera or water meter). To understand, we must consider the totality of relations that exists within the world of the environmentalists, including the means of production they use *in order to* produce, for example, images and graphs. Thus, the totality of relations is discovered *before* the individual thing (*Zeug*).

I taught science to middle school students by having them participate in an environmental activity concerning Hagan Creek and the watershed. These students learned to use tools *in order to* do something—as part of their overall care/concern for the project—rather than “learning to use the tools” by acquiring a set of skills that were disconnected from environmentalism. They made a commitment to environmentalism *before* they learned the relevance of the tools and how to use them; and their learning to use the tools was a by-product of their involvement. Within the totality of environmentalism surrounding Hagan Creek, the tools used are ready-to-hand; these tools allow environmentalists to pursue their cares/concerns. They take pictures rather than operate a camera; they mount pen-chart recorders and produce graphs *in order to* have data for grants or to obtain permission for projects. These outcomes constitute “the what-for” (*das Wozu*) aspect of the totality. The camera is used to produce pictures that can support certain statements about the current state of the creek.

Heidegger described other forms of relations that structure consciousness and the world, including the for-the-sake-of-which (*das Worumwillen*), the for-one-another (*das Füreinander*), the where/what-in (*das Worin*), the whence (*das Woher*), and the whither (*das Wohin*). That is, Heidegger emphasized relations rather than things—something that CHAT scholars also intend to do. Heidegger understood that the historical dimensions of human engagement in the world are very important to attend to. His language, often decried as too arcane, was designed to make these historical *relations* visible, so that those who spoke his language could not reduce activity to the subject (e.g., what does the subject know) or reduce activity to any of the other mediating “elements” theorized.

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<sup>4</sup>Heidegger used the term *Zeug*, because it is used in the compound word *Werkzeug*, tool or, for example, *Schuhzeug*, footwear. The use of *Zeug* allowed him to relate this term to other important terms in his system, including *zeigen* (to point), *Zeichen* (sign), and *Zeuge* (witness, testimony).

There may be other materials—part of the CHAT *object* (Figure 2)—that are used in environmentalists’ productive work. These tools may also appear to environmentalist’s consciousness in relation to their anticipated product. Paper, ink, film rolls, and so on, are all part of the materials that environmentalists use; so are Hagan Creek and the watershed that it drains. Heidegger pointed out that these materials and the world that they constitute are encountered within the totality of a given care/concern structure. Everything that Dasein encounters *in order to* take care of and be concerned for Hagan Creek has the pragmatic character of a useful thing, whether it is ready-to-hand or present-at-hand (e.g., when broken, unavailable). Serviceability, handiness, helpfulness, and usability are, therefore, the dimensions that characterize everyday consciousness and cognition related to the useful things encountered in taking care. This has led to the aforementioned interest of computer and workplace designers in Heidegger’s work.

For Heidegger, the relations that constitute consciousness are shaped not only by the activity structure itself but also by the needs of future users (*consumers in CHAT terms*) with whom the producer entertains *exchange* relations. This orientation toward exchange was present in the original formulation of the triangle structure exemplified in Figure 2, yet has all but disappeared from most (all) of its recent applications. Heidegger reorients us to the role of exchange relations in the structure of consciousness. He points out that the product is literally tailored to the needs of those who purchase or acquire the product in some other way; this is so even in mass production. Thus, the environmentalists produce their photographs for the explicit purpose of crafting convincing grant applications or for writing and presenting applications to the municipality for new projects or changes to current bylaws. The future uses of the outcomes of their productive work already shape the consciousness of the producers. If we were to apply this form of thinking to school-based CHAT research, there would be significant implications. For example, school-based CHAT researchers would have to ask themselves, What is produced in lessons and courses and subsequently exchanged? Of course, grades are produced and students’ and teachers’ consciousness is shaped by the care/concern *for grades, which have exchange-value*, rather than for *so-called conceptual knowledge, which has very little use-value* (a point most teachers make concerning the knowledge they are taught or acquire in their teacher education program). We therefore do not have to go far to understand why “knowledge” is the least of the concerns in current educational systems.

The sketch shows that for Heidegger, everyday consciousness is determined by a totality of relations, which are oriented by a particular care/concern. Everything that Dasein encounters in the process of taking-care of/being-concerned for exists in as far as it is ready-to-hand within the given relational totality. Handiness is the ontological determination of anything that Dasein encounters; handiness is the way a thing is “in itself” (*an sich*). When something is no longer handy it presents itself in a derivative mode, that is, it is present-at-hand. It comes to be present-at-hand because, by not being handy, the thing (tool) and its parts come to be conspicuous, obtrusive, or obstinate. The pen chart recorder comes to be a concern in itself precisely when it does not produce the anticipated graph. The environmentalists may take it apart, check the ink container, or see whether the ink conduit dried up. Up to that point, they may never have worried about the structure of the tool as such—in the same way that we do not worry about how a car engine or a computer works. That is, the world of Dasein does not consist of things that are present-at-hand as they would be to an engineer or scientists. But rather, the structure of the world is characterized by handiness and useful things come to be present-at-hand only when they do not work. Even when things come to be present-at-hand, they do not appear to practitioners

as they do to engineers and scientists; if some action makes the problem disappear, and if practitioners are able to *work around* the problem, then practitioners no longer worry but continue in a mode of care with a tool that has returned to being ready-to-hand. If the zoom feature on an environmentalist's camera is a bit stuck and the environmentalist is able to fix it by shaking the camera, he or she will stop worrying and will go on using it for years despite the sticky zoom (an actual case from my research experience).

At this point, it should be quite evident **that Heidegger approached consciousness in everyday activity in a way that is similar to (Marxist) CHAT.** Heidegger can help (some of) us to focus our data analysis. CHAT scholars have a tendency to use mediational triangles for reifying externality and structures. This tendency is often linked to the use of mediational triangles, including those of the type featured in Figure 2. Heidegger teaches us that to understand what people do in their everyday activity and how they do it, we need to study how the world appears to them and how they relate to this world. Being-in-the-world is the unthematic and circumspect absorption of useful things (material, tools, world) that are ready-to-hand into a totality of relations that Dasein entertains. It is an irreducible unit. Though it is analyzable in structural terms, none of the isolated structures makes sense outside of the totality of relations that make up the whole unit.

I do not have sufficient space in this editorial to describe all of the similarities between Heidegger and CHAT; this editorial is not the place to attempt a more exhaustive articulation of the similarities. But there is a lot that CHAT researchers can learn from a careful reading of *Sein und Zeit* (*Being and Time*). For example, Heidegger articulated how signs appear and are used in everyday activity. His description is quite different from those found in the current semiotics and CHAT literatures. **Heidegger's approach to language is quite consistent with the approach of the later Ludwig Wittgenstein or Valentin Vološinov/Mikhail Bakhtin.** For example, Heidegger pointed out that words do not have or acquire meaning—in contrast to much of the present-day educational literature that defines students' work in terms of the (conscious) construction of "meaning."<sup>5</sup> Rather, akin to Wittgenstein, who points us to the use of words, Heidegger suggests that words accrue into always already existing relations of significations. That is, in the same way as the earlier mentioned things, which appear *after* the discovery of the relational totality, the significance of words is discovered in a world always already familiar to the acting subject. New science words were useful (and "meaningful") to my students because of their participation in environmentalism and because of their familiarity with their watershed, their creek, and their village community. The new words they encountered in class (e.g., dissolved oxygen, pH, turbidity, colorimeter) found a place in a world that the students were already familiar with, rather than being tagged with something obliquely denoted as "meaning."

There are many other important implications for CHAT research that arise from Heidegger's work. For example, Heidegger states that we (physically) hear because we already understand rather than the other way around. That is, speaking presupposes hearing and hearing presupposes understanding, so that speaking, rather than constituting simple information transfer, actually presupposes (rather than produces) understanding. I predict that some readers will resist this idea, but I ask those who doubt to consider this: My graduate students and research assistants

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<sup>5</sup>A typical problem with the research literature is that authors write something like "the students constructed the meaning of 'dissolved oxygen'" and then fail to describe this meaning. In this way, the authors only obliquely and indirectly point to what the students actually constructed.

assisting with the transcriptions of the tapes from the Hagan Creek project repeatedly experienced difficulty hearing what someone said in a videotape they were transcribing. They noted this by using parentheses and question marks in the transcripts (e.g., the sign “(???)” was used to denote the presence/absence of approximately three undecipherable words). Because I was familiar with the environmentalist project and knew the environmentalists’ concerns and cares, I was able to propose possible utterances. Immediately after I would make a suggestion, the research assistants would also begin to hear the missing words. This leads us to another point made by Heidegger, as well as Vološinov/Bakhtin and the French philosopher Jacques Derrida: Words are always already part of a textured cloth (Ger. *Geflecht*, Fr. *tissue*) that links up and interweaves (a) that which is merely linguistic with (b) everything else in the world. If we remove the world, there is nothing left to language; if we remove language there is nothing left to the world. Language philosophers, such as Donald Davidson and Richard Rorty, therefore say that from this position there is no longer a difference between knowing a language and knowing one’s way around the world more generally.

Another important lesson for CHAT research derives from the temporal relation that Heidegger articulated between presence and the present (the interpretation and further development of this work is a major accomplishment of Jacques Derrida). For Heidegger, **Dasein is always ahead of itself**, which means that the present cannot be present to consciousness. The present always comes to Dasein as past, that is, in and as *representation*. The very notion of representation means that there is a lag between consciousness and what consciousness is about. This abyss between the present and its presence has *serious* consequences, leading not only to temporal and spatial modes of our experience but, I suspect, to the abyss between plans and situated actions; between theory and practice: between recipes and cooking; between doing and knowing what we have done; between presence, cognition, and meta-cognition, and so forth. One consequence of this phenomenon is the temporality of being-in-the-world, which implies (a) a strictly historical dimension of all micro-genetic, ontogenetic, and cultural/socio-genetic levels and (b) the continued erasure (because of transformation) and reproduction of the subject. Both implications raise serious questions about the current canon with respect to the stability of identity, self, and knowledge. For example, as Lev Vygotsky argued, thinking and speaking/writing are cultural historical processes that erase/replace previous forms of speaking and thinking. This vantage is consistent with Bakhtin’s dynamic viewpoint of language specifically and Being more generally. My middle school students changed in and through participation in environmentalism, and they tended to forget how the world looked to them before they began to participate.<sup>6</sup> Like Vygotsky and Bakhtin, Heidegger emphasized the centrality of mood/emotionality on activity generally and on its articulation in speaking particularly.

CHAT research and other forms of social research do not yet attend to another important aspect of being-in-the-world that has been an important topic of (phenomenological) philosophy: (radical) passivity. According to Heidegger, we always already find ourselves in a world shot through with signification—a world where others use language, where we use language prior to being conscious of ourselves, and where our identities are functions of our prior (unconscious) participation in a structured social-material world. This world is given to us in and through participation, and with it, shared consciousness, intersubjectivity, language, and so on. Without

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<sup>6</sup>It is impossible to remember what the world looked like prior to learning, and it is in fact unnecessary to remember how the world looked to us when we were children or teenagers. In other words, forgetting is constitutive of learning.

this concept of passivity, we cannot understand agency, a concept intimately and irreducibly tied to passivity. For example, we understand that intentional actions are directed at conscious goals, but we do not understand where the intentions themselves come from. In fact, they are given to us: We always find ourselves with an intention, a motive, or a predilection that we cannot ground further. We cannot understand learning something (radically) new precisely because this new knowledge is unknown at the moment of getting ready to learn; it cannot be the object of our intention. We cannot aim to learn something unknown in the same way that Christopher Columbus did not intentionally discover the Americas. If I know something, I do not require the intention to know it; if I do not know some thing, I cannot intend to know it because the intention is a function of knowing the thing. Moreover, because Columbus did not know about the Americas he could not monitor his (learning) trajectory. For this reason, a Heideggerian approach would seriously question research on meta-cognition because (a) cognition cannot be present to itself and (b) learning new knowledge cannot be intentional. In the appropriation of a new discourse, the discourses purposes and intentions become available to consciousness only after the fact—a realization that other philosophers of the 20th century have come to (e.g., Richard Rorty, Donald Davidson) but is yet to be addressed in social science research.

There is a lot in Heidegger's work that can help CHAT researchers to push their research and theory into new and fruitful realms. In particular, Heidegger's careful description of how we know through the pursuit of everyday affairs offers readers a useful perspective on knowing and learning, self-monitoring learning, and so forth. Heidegger allows us to appreciate the world as everyday problematic and encourages us to conduct research from the perspective of people. These intellectual tools are useful for scholars who wish to write about the social in a way that returns the knowledge produced to the people.

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