

Dewey's Creative Ontology

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Introduction

Inquiry-based and other experiential pedagogies are increasingly being adopted as powerful tools to enhance learning and engage students in the classroom. Inquiry-based learning, for example, has been found to effectively promote the acquisition of new knowledge, abilities, and attitudes when compared against traditional pedagogical methods (Barron & Darling-Hammond, 2008; Bruder & Prescott, 2013; Friesen & Scott, 2013).

While John Dewey is often referenced as an important originator of contemporary theories of inquiry, as well as experiential and problem-based forms of learning (Giles & Eyler, 1994; Schön, 1992; Downey & Clandinin, 2010; Savery, 2015), his wider philosophical thought is frequently evacuated from the very same educational literatures that take up the implications of his ideas. Such approaches inadvertently ignore many of the core insights in Dewey's philosophy. Stripped of this context, for example, inquiry is reduced to little more than an "active learning" strategy (Lee, 2012, p. 6) that is deployed to ensure students will be more likely to recall, reproduce, and mentally manipulate predetermined academic content (i.e. "enhanced" learning) (Prince & Felder, 2006). As such, Dewey's vision for liberating, humanizing education is turned into yet another kind of uncritical pedagogy that indoctrinates students into pre-existent social practices (Garrison, 1998, p. 114).

While it may be argued that holding a deeply theoretical conception

of inquiry is less important than simply bringing inquiry strategically into the classroom, such a view ignores the fact that a teacher's beliefs about teaching and learning play a significant role in shaping his or her approach to pedagogy and the curriculum (Monsour, 2009; Phillip, 2007). Virginia S. Lee (2012) argues that "an instructor who sees himself as a presenter of knowledge and trusts primarily his own control over knowledge delivery will implement [inquiry guided learning] quite differently from an instructor who sees herself as a collaborator with students in the process of inquiry and trusts the process of inquiry itself as a force in learning regardless of the level of the students." (p 10). Grasping the philosophical complexities of inquiry is fundamental to embracing and advancing progressive forms of pedagogy.

This essay is an attempt to illuminate a significant aspect of Dewey's philosophy that is largely absent from contemporary educational discourses on inquiry, which is the relationship between the self and the process of inquiry. While there has been much written about Dewey's theory of inquiry, there has been less scholarship devoted to his notion of the self (Blanken-Webb, 2014, p 156), particularly as it relates to this theory of inquiry.

By understanding the relationship between inquiry and the self, it will become clear how and why Dewey's theory of inquiry was not simply a strategy to acquire academic content. For Dewey, inquiry is a way of taking seriously the school as a site of social self-formation which establishes the conditions for meaningful, just, and equitable forms of associated living. This is because inquiry is not a process of "active" learning (i.e. actively "taking in" knowledge), it is a mode of creative inhibition that is enacted in and through the world. Inquiry-driven pedagogies fundamentally alter a student's relationship to knowledge and themselves. In this way, inquiry is a process of reconstructive becoming that serves as a significant corrective to dehumanizing effects of traditional forms of education that Dewey faced in his own lifetime and continue to plague the education system today.

Dewey's Transactional Metaphysics

Many of the central elements of contemporary educational research and practice can be traced to the work of psychologist E.L. Thorndike. Thorndike's view of education is rooted in a foundationalist metaphysics which maintains that the self and the world are ontologically discreet and causally related. The self is little more than a behavioral agent who encounters the world as a mind from outside. Thorndike writes, for example, that "no response of any human being occurs without some

possibly discoverable cause; and no situation exists whose effect could not with sufficient knowledge be predicted. Things to not happen by mere chance in human life ...The same situation acting on the same individual will produce, always and inevitably, the same response" (Tomlinson 1997, p. 371). Educational research following Thorndike's legacy is largely devoted to developing single-factor causal models that attempt to explain and direct student behavior in the static environment of the school.

It is well known that Dewey lost the education wars of the early twentieth century to Thorndike. This occurred, in part, because Dewey's radical vision required not only deep practical changes to schooling, but also a wholesale revision of its underlying philosophical foundationalism. Thomas M. Alexander (1987) writes that Dewey's metaphysics are "so radical and divergent from traditional [views] that thinkers whose intellectual habits have been formed by the tradition are compelled, often against their inclinations, to give a systematic misreading of Dewey" (p 60).

Dewey refers to his metaphysical system as "empirical naturalism," "naturalistic empiricism," and "naturalistic humanism," all of which attempt to express the central idea that human experience and reality are not ontologically discrete but are emergent and co-determining. Human experience and nature bring one another into being and are interrelated (Dewey, 1949/1989, pp 242-244; 348). In his final published book, *Knowing and the Known* (1949/1989), Dewey introduces the concept of *transactional* to describe his metaphysics, as opposed to foundational or interactional, which attempts to locate their emergentist orientation (Brinkman, 2001, p 299-303).

A central part of Dewey's position is a rejection of the Substance Realist assumptions that underpin classical positivist views of science, including the views that continue to guide much of educational research today. In order to explain the difference between traditional positivist views of science and his own, Dewey distinguishes between two forms of materialism: "reductive" and "naturalistic." Reductive materialism, which is embodied in Thorndike's work, assumes that all things are reducible to (and therefore predictable from) constituent parts (Dewey, 1945/1989, pp 112-114). Harold Morowitz (2002) argues that all classical science is built upon reductive materialism. He writes that "from the theoretical constructs postulated at each level, we can make a series of predictions or rules that work their way, often through calculations, back to the world of observation" (p 19). This view is, in part, what sets forth a quest for final foundations (what Dewey called the "quest for certainty") which are assumed to be the building blocks of reality.

Naturalistic (i.e emergent) materialism, which is Dewey's position, maintains that things are related, but not strictly reducible, to parts. All

things emerge from parts to become something genuinely new. Morowitz (2002) writes that

in the domain of emergence ["naturalist materialism"], the assumption is made that both actual systems as well as models operate by selection from the immense space and variability of the world of the possible, and in carrying out this selection, new and unanticipated properties emerge. This type of outcome is similar in some way to the biologist's view of evolution, in which novelty occurs by mutation, translocation, selection, and differential survival. New structures, new species, and new ecosystems thus emerge. The evolving taxa and systems are not predictable in any exact sense. (p 20)

For Dewey, existence is an event-structure which is always undergoing negotiation, adjustment, and revision (Dewey, 1925/1981, pp 5-6). There is nothing that exists as a thing-in-itself, but all *things* are manifestations of particular kinds of novel and complex relationships that take place in and through time.

Dewey's Emergent Self

Dewey's metaphysics yield a very different conceptualization of the self at the center of education than traditional foundationalist views. Dewey's view of the self has deep consequences not only for inquiry-driven pedagogies, but also curricular structures and the very aims of education. Before turning to an articulation of inquiry as a process of social-self creation, it is first necessary to clarify Dewey's view of the self.¹

Built on his transactional metaphysics, Dewey's view of the self stands in opposition to traditional Western conceptualizations in which the self is imagined as largely static, ontologically discreet from the world, and formed as a cause of various effects in the world. In the dominant Western view, students (selves) are mental agents, whose thoughts, decisions, motivations, and actions take place consciously, and who are largely in control, aware, and distinct from their own emotions and bodies (Kuldas & Bulut, 2016, p 200). The self, as a whole, is understood as an *a priori* entity that is context-free (i.e. transcending interpersonal relationships) with traits that are ontologically distinct from cultural and social roles (Kuldas & Bulut, 2016, p 201). This can be seen, for example, in the widely held belief that there are such phenomena as "core" skills (e.g. critical thinking) which are context-free, universal, and can be internalized by students as waiting *tabula rosas*. Broadly speaking, educational research and practice in the U.S. remains committed to this position (Garrison, 1998).

To the contrary, Dewey argues that the self is an emergent property

of a process of ongoing reflection and action in the world. The self is an experimental consequence of social action and inquiry, rather than something that exists a priori. Dewey (1893/1971) writes that the self is “always a concrete specific activity” (p 43), meaning that the self “exists” only at the present moment, as a process, and is an experimental working ideal (Cunningham, 1995, p 183). The self, in this way, is a creative construction that emerges from an ongoing process of inquiry.

The bridge connecting Dewey’s metaphysics and his theory of the emergent self is the triadic distinction he draws between the material world, life and the habits of living, and meanings and minds (Dewey 1925/1981, p 208). This bridge will show how and why the self is not ontologically distinct from the world, but is a uniquely emergent property of the world.

The Material World

Dewey argues that the difference “between the animate plant and the inanimate iron molecule is not that the former has something in addition to physio-chemical energy; it lies in the *way* in which physio-chemical energies are interconnected and operate, whence different *consequences* mark inanimate and animate activity respectively” (Dewey, 1925/1981, p. 195, emphasis in original). For Dewey, animate life is neither an illusion, nor a transcendental imposition into nature, but emerges from a particular relationship of properties inside nature. At its most basic level, the part of nature we describe as *living* shares the characteristic of what Dewey calls *restoration of equilibrium*. Inanimate nature is governed by its environment, but animate nature maintains “the type of activity of the organism to which it belongs” (Dewey, 1925/1981, p 195). What we call *life* is a particular kind of natural bias for sustaining the organism through renewal, which is not ontologically distinct from other kinds of biases within nature (Dewey 1925/1981, p 195). Lower-order organisms such as plants exhibit less complexity in their ability to transact with the environment. They simply, though selectively, react to environmental conditions. More complex forms of life more deeply cultivate the capacity to transact with the environment, allowing them to go beyond simple reactive impulses to actual, reconstructive possibilities.

Life and the Habits of Living

Complex forms of life acquire the capacity for what Dewey calls habitual action. Habits are behaviors that arise out of organism-environment transactions and which *incorporate the environment into* the behavior of the living creature (Dewey, 1922/1983, p 15). At their most basic level, habits are generalized, learned responses to particular classes

of environment situations. Dogs, for example, can be trained to behave in specific ways. It is their species-typical instincts that open the possibility of using natural signs for communicating, but it is household-specific habits that shape those possibilities into particular modes of behaving. There are three elements of Dewey's theory of habits that are critical to his view of the self.

The first element is that as forms of life become more complex, acquired habits become *more primitive* in behavior than species-typical impulses (Dewey, 1922/1983, p 65). It is learned behaviors that structure, guide, and call out immediate and reactive impulses, rather than the reciprocal being true. The second element is that habits are not the responses of an internal being to an external environment, but *an integrated transaction* between the two (Dewey, 1925/1981, p 215). Habituated sensitives widen and extend what we traditionally think of as "the organism." Complex organisms select, draw in, and redirect parts of their environment and themselves through adaptive action (Hickman 2001, p 21). The third element is that habits are self-evolving. Dewey writes that "the sailor is intellectually at home on the sea, the painter in his studio, the man of science in his laboratory" (Dewey, 1922/1983, p 123). This is because each has shaped their specific biological aptitudes and capacities into unique modes of behaving in given environments. *Inhabiting an environment* is a way of describing the active and alert commerce between the creature and the world.

For Dewey, habits—which are socially developed and deployed—structure the self: "all habits are demands for certain kinds of activity; and they constitute the self" (Dewey, 1922/1983, p 21). Habits are therefore preconditions of knowledge, rather than knowledge, itself (Garrison, 1998, p. 124). They channel and refine our impulses and are modifications of our neuro-physiological system acquired from prior experiences as both participants in the customs of some socio-cultural tradition and in our biological environment (Garrison, 1998, p. 125)

Meanings and Minds

The most complex forms of life participate in meaning-relationships, which are both social and behavioral. Meaningful behavior begins habitually—in what G.H. Mead calls a "conversation of gestures" which lies below the acquisition of language and permeates all behavior. The conversation of gestures is a reciprocal shifting of behaviors based on conjoined action. The mechanism for the emergence of meaning is present even in proto-social acts because for Mead (1967/2009) the "adjustive response of the second organism gives to the gesture of the first organism the meaning it has" (pp 77-78). The gestures taking place between animals

only become meaningful when those gestures possess the capacity to coordinate action between agents. Gestures (including linguistic gestures) *mean something* because of our tendency to respond to them.

For humans, an act is meaningful because it symbolizes *potential* actions and *potential* results. Mead (1967/2009) writes that “you ask somebody to bring a visitor a chair. You arouse the tendency to get the chair in the other, but if he is slow to act you get the chair yourself. The response to the vocal gesture is the doing of a certain thing, and you arouse that same tendency in yourself” (pp 67). In this way, language draws in and coordinates potential responses in and through multiple actors, *including the actor him- or herself*.

To have a mind in the human sense means that one can respond to meaning rather than simply reacting mechanically and causally to particular stimuli (Brinkmann, 2011, p. 307; Dewey, 1916/1980, p. 34). Dewey (1925/1981) writes that “mind’ is an added property assumed by a feeling creature, when it reaches that organized interaction with other living creatures which is language ...This state of things in which qualitatively different feelings are not just had but are significant of objective differences, is mind. Feelings are no longer just felt. They have and they make *sense*...” (p. 198). Mind is what allows us to linguistically abstract and participate in shared meaning-relationships in order to creatively reconstruct experience. It is the mind, birthed through participation in language, that allows for the emergence of imaginative possibilities including the creation and reconstruction of the self (Dewey, 1934/1987, p. 276).

Selves

The *self* is brought into being when the live creature becomes a meaningful object to itself. Mead describes the emerging self as the relationship between the “I” and the “Me” (Mead, 1967/2009, pp. 173-178).

The “I” represents the unique, embodied, and habituated responses of the individual to particular situations, while the “Me” is the internalized attitude of the other that establishes alternative social positions and possibilities for action (Mead, 1967/2009, p. 175). For Mead, the *self* is worked out hermeneutically, as a transaction between the engaged, novel *action* of the “I” and the *critical reflection* on that action that sediments into the standpoints of the “Me.” In Mead’s account, we never experience ourselves directly, but only “indirectly, from the particular standpoints of other individual members of the same social group” (Mead, 1967/2009, p. 138). The self is always in deferral, a process of reflection on action, and always open to creative reconstruction (Mead, 1967/2009, p. 174). We are born with certain sets of biological aptitudes and experience the world uniquely, but we only achieve the *self* through conscious reflec-

tion on meaningful action. This is because the self is not an essential *thing*, but is a process of coordinated, action-in-environment which we interpret as a coherent object.

There are several aspects of this conceptualization of the emergent self that are central to Dewey's educational philosophy.

The first is that the self is transactional and emergent with the world, rather than *a priori* and ontologically discreet from the world. Dewey (1949/1989) writes that "no one exists as a buyer or seller save *in and because of* a transaction in which each is engaged. Nor is that all; specific things *become* goods or commodities because they are engaged in the transaction. ...Moreover, because of the exchange or transfer, both *parties* (the idiomatic name for *participants*) undergo change..." (p. 242, emphasis in original). Like all social meanings, the self exists as a transactional commerce with, in, and through the world. In the traditional Western conceptualization, the self enters the classroom as a discrete object which will change only in terms of knowledge acquisition and *a priori* developmental stages. For Dewey, the self emerges as a result of its transacting in and through different environments. It is likely that students placed in different classrooms will not simply know different things, but *will become different selves*.

The second is that the self is not reducible to a dependent causal property of environmental conditions, but is a creative construction which develops dimensions that belong uniquely and dynamically to the organism, itself. Dewey's emergent view of life and, in particular, human life is a shift from dependent to contingent forms of causality. It also means that the basic analytical unit of psychology cannot be stimulus-response, but instead is goal-directed activity through which the organism tries to affect change to itself and its environment (Bredo 2003, p 94). Selves, therefore, are not reducible strictly to physical movements, but include interpretive intentions that are the basis for unique, creative action (Brinkman, 2011, p. 306).

The third is that the self is creatively constructed in and through reflection and action in environment: through processes of inquiry. Scott Johnston (2010) writes that "it is out of this union of organism and environment through investigation of experience and its traits that the 'self' is born. Dewey's notion of the self is the product or resultant of inquiry into the transaction between human organism and world" (p. 466). The self emerges in and through participation in a meaning-field, which includes logical objects, tools, and other creative products, as well as roles enacted with and through those objects. This is why, for Dewey, teaching is not a process of direct instruction but in providing "an environment in which native powers will be put to better uses" (Dewey, 1916/1980, p. 125).

This is the heart of Dewey's creative ontology and his radical constructivism. Education is not simply the acquisition of information or movement through *a priori* developmental stages, but it is a process of constructing the self. We make ourselves as we creatively engage in and contribute to a meaningful world. As Garrison (1998) argues, "What is the meaning of life? The Deweyan answer is that the meaning of life is to make more meaning" (p. 129). The meanings created in and through inquiry include the meanings of the self. In the final account, the self exists as result of engaged creative activity and is our greatest hermeneutic achievement.

Inquiry as Social-Self Creation

With Dewey's transactional metaphysics and emergent theory of self in view, it is now possible to show how and why his theory of inquiry is not reducible to an active learning strategy, but instead it is a process of social-self creation.

Inquiry as Construction

Dewey's theory of inquiry begins in a rejection of all foundationalism, including the positivist epistemologies that continue to dominate educational research and practice after Thorndike (Stoller, 2014, pp. 8-10).

The positive method imagines that inquiry is a process of laying bare the objective facts which stand in front of researchers. Thorndike expresses this basic concept in claiming that everything that exists, exists in some quantity, and can therefore be measured.² This view connects a foundationalist metaphysics (Substance Realism) with a foundationalist epistemology (Correspondence Theory of Truth) to yield a view of inquiry as a process that allows direct knowledge of any object under investigation. The same basic epistemic relationship between knowers and knowns as ontologically distinct manifests also in the view that inquiry is the process of knowers "acquiring" antecedently true knowledge.

Dewey called this position *the spectator theory of knowing*. He believed it characterized all major epistemologies in the West and was one of its most pernicious problems (Dewey, 1929/1984, pp. 3-20). The spectator theory of knowing gives way to the belief that ends (e.g., knowns, facts, skills, etc. ...) can be fixed for learners prior to and apart from an experienced process of inquiry. This further means that learning, viewed as a generic, causal process, may be applied unilaterally and irrespective of the student or their unique context.³

In contrast positivist epistemology is the pragmatic view of truth, which was first articulated by C. S. Peirce. Peirce argues that we come

to know things in a way that is already pre-determined by the practical goals that brought us to study an object in the first place. For Peirce, there is always an object that exists, but that object is not precisely what is under investigation in scientific study. For Peirce, to have an *object* was already a symbolic construction which was conceptually represented for practical purposes. Peirce (1934) argues that:

now thought is of the nature of a sign. In that case, then, if we can find out the right method of thinking and can follow it out—the right method of transforming signs—then truth can be nothing more nor less than the last result to which the following out of this method would ultimately carry us. In that case, that to which the representation should conform, is itself something in the nature of a representation, or sign—something noumenal, intelligible, conceivable, and utterly unlike a thing-in-itself. (pp. 390-391)

Peirce did not, on the other hand, conclude that what we know is *merely* a construction—a kind of subjectivist fiction—because material reality does exist. He (1878/2001) argues that “the real, then, is that which, sooner or later, information and reasoning would finally result in, and which is therefore independent of the vagaries of me and you” (p. 69). For Peirce and for Dewey what is real in the world does not appear to us directly, but is mediated through our purposes in action. The world exists and forces us to respond. Yet, when in attempting to determine the essence of the real, what we are really doing is concentrating on a kind of abstracted concept we, ourselves, have created for our purposes. Peirce therefore rejects the idea that there is such a thing as an individual observer or an individual object, which exist independently. The object and the observer exist simultaneously and bring each other into existence.

Dewey takes up and greatly expands this argument in *Logic: The Theory of Inquiry*, where he shows how objects of knowledge and social meanings (including the meaning of the self) are *constructed through* the process of inquiry.⁴ Here, Dewey seeks to dissolve what he calls the epistemology industry, replacing it with a rich theory of inquiry that is broader and more capable than the traditional epistemological project. In its primary phase, the world is simply immediately experienced as both precognitive and unreflective. In Dewey’s language it is immediately “had.” The “object” of inquiry is what the process of inquiry will create. The world, itself, merely “suggests” objects, but it does not “give” them (Cunningham 1995, p 178). Craig Cunningham (1995) writes that “objects are created in the process of inquiry, when a perception is consciously connected to some other perception or idea. This does not mean, however, that objects of knowledge exist only in the mind. Both brute existences

and objects of knowledge are real; both exist in experience, and both have existential consequences” (p. 178).

The metaphysical significance of this aspect of Dewey’s theory of inquiry cannot be understated. For Dewey all inquiry reconstructs experience. When we are engaging in active processes of inquiry we are not simply reconstructing our perception of an external, objective reality, but we are reconstructing *reality itself*. Dewey (1903/1976) writes that “reality is thus dynamic or self-evolving” (p. 296). When an inquirer has undergone a successful process of inquiry they have not *discovered* reality, but they have *changed* reality: a reality that includes the self.

Inquiry and Transformation

As such, inquiry is fundamentally a transformational process. As Dewey (1938/1986) writes, “the category of transformation extends through the whole pattern of inquiry” (p 394). There are three primary dimensions of transformation that occur in and through a successful process of inquiry that have significant implications in Dewey’s educational philosophy.

The situation. The first transformation is the existential situation into which an individual or community directed its process of inquiry. Dewey writes (1938/1986), “The experimental phase of method is an overt manifestation of the fact that inquiry effects existential transformation of the existential material that instigates inquiry. Experimentation is not just a practical convenience nor yet a means of modifying states of mind” (p. 458). Inquiry is, instead, “the controlled or directed transformation of an indeterminate situation into a determinately unified one” (p. 121). When an inquirer meaningfully inquires into a situation, he or she succeeds in part because the situation, itself, has been transformed and no longer requires further inquiry.

One of the limitations of applying inquiry as a classroom strategy without understanding its wider philosophical context is that its transformational potential is often stripped out as a result of it being orchestrated and administrated by the aims of the teacher. In this case, the student never undergoes the full arc of successful inquiry. Dewey (1938/1986) writes that “a problem is not a task to be performed which a person puts on himself or that is placed upon him by others—like a so-called arithmetical ‘problem’ in school work. A problem represents the *partial transformation* by inquiry of a problematic situation into a determinate situation” (pp. 111-112, emphasis added). The educational potential of inquiry is stunted when students are not allowed the experience of turning a truly indeterminate situation into a problematic one.

Students must encounter the very existential process of an emerging problematic if they are to learn how to creatively solve problems and reconstruct their environment.

Meanings. The second dimension of transformation are the meanings which emerge from the process of transforming an indeterminate situation into a determinate one.

For Dewey, *the* philosophic fallacy occurs when knowns are read back into the situation and imagined to have existed at the very beginning, prior to inquiry. In this case, they are imagined to have been discovered by or taken by the inquirer rather than made as a process of active production. Dewey (1938/1976) argues that “what scientific inquirers do, as distinct from what they say, is to execute certain operations of experimentation—which are operations of doing and making—that modify antecedently given existential conditions so that the results of the transformation are facts which are relevant and weighty in solution of a given problem” (p. 492). As Dewey (1938/1976) writes, after “undergoing inquiry, the material has a different logical important from that which it has as the outcome of inquiry” (p. 122). By the time *an idea* has become *a fact* it has undergone a transformation. It originated in a disrupted, synthetic, existential situation and only after successful operations performed becomes a logical object.

Dewey (1916/1980) argues that in undergoing successful inquiry the inquirer gains “an added power of subsequent direction or control” (p. 83). The inquirer also gains an “increased perception of the connections and continuities of the activities in which we are engaged” (p. 82-83). Stated another way, the inquirer’s habits of action and of thinking are enriched and expanded as they are widened through the cultivation of emergent meaning-relationships.

Dewey compares an astronomer and a child looking through a telescope. In both cases, there exists the same physical activity: a person gazing through an arrangement of glass and metal. While the physical activity might be the same for both, for the astronomer there is an active productive skill and a wealth of meanings which fill and expand the experience. The astronomer not only has refined habits of seeing, but he has a rich understanding of the solar system, of physics, and of history. Dewey (1916/1980) writes that to “‘learn geography’ is to gain in power to perceive the spatial, the natural, connections of an ordinary act; to ‘learn history’ is essentially to gain in power to recognize its human connections” (p. 217). To learn is to begin to inhabit the environment with a particular mode of being in and capacities for engaging the world through the creation of meaning.

Selves. Lastly, inquiry transforms the persons involved in the process. Dewey (1939) writes that “the formation of a self new in some respect or some degree is...involved in every genuine act of inquiry” (p. 587). Inquiry does not simply change what we know, but it changes *who we are* because it concurrently reconstructs our habits, meaning-fields, available social roles, and view of ourselves as agents in the world.

Michel Foucault’s work is helpful in illuminating this aspect of Dewey’s philosophy. In *The Hermeneutics of the Subject*, Foucault argues that Descartes ushered in a deeply problematic turn in the way that we conceptualize the relationship between knowledge and the self.

Prior to Descartes, *epimeleia heauton* (care of oneself) served as the guiding paradigm of philosophy. Under this paradigm it was understood that to access knowledge or truth the subject must undergo a conversion or transformation (Foucault, 2005, pp. XXIV; 10-17). Foucault argues that *epimeleia heauton* guided philosophy until Descartes ushered in *gnothi seauton* (know thyself) as the dominant view. Foucault (2005) writes that “the modern age of the history of truth begins when knowledge itself and knowledge alone gives access to the truth. That is to say, it is when the philosopher (or the scientist, or simply someone who seeks the truth) can recognize truth and have access to it in himself and through his acts of knowledge alone, without anything else being demanded of him and without his having to alter or change in any way his being as subject” (p. 17). After Descartes, the self is severed from the act of inquiry. Knowing becomes a gnostic concept: acquisition of information, while the self remains unchanged.

Epimeleia heauton is instead grounded in the “experimental attitude,” which is the testing of oneself, or one’s mode of being, in and through concrete practices (Foucault, 2005, p. XXVII). Foucault (2005) writes that “we can say that in and of itself an act of knowledge could never give access to the truth unless it was prepared, accompanied, doubled, and completed by a certain transformation of the subject; not of the individual, but of the subject himself in his being as subject” (pp. 15-16). *Epimeleia heauton* is grounded in knowing as a fusion of the knower with the known.

Dewey similarly argues that the act of knowing is not simple acquisition of information, but is a holistic transformation of the self in and through the process of experimental inquiry.

A process of inquiry is predicated on a constellation of elements which enter into a situation (Dewey 1939, p 586-587). When inquiry reconstructs a situation it transforms *all* aspects of that situation—environmental conditions, meanings, habits of the self, and attitudes, among other things—which hang together in a new way as a result of transactional

action that has taken place in the whole. As a result, as Dewey (1939) argues, reconstitution of the self “*is then not incidental but central*” to all acts of inquiry (p 588, emphasis added). Stated another way, a process of inquiry is a reconstitution of the self because to inquire is to transform the world in which the self is transactionally bound.

Conclusion: Educating in the Present

In a critical response to William Deresiewicz (2014), Steven Pinker (2014) writes the following:

Perhaps I am emblematic of everything that is wrong with elite American education, but I have no idea how to get my students to build a self or become a soul. It isn't taught in graduate school, and in the hundreds of faculty appointments and promotions I have participated in, we've never evaluated a candidate on how well he or she could accomplish it.

In his critique, Pinker expresses a version of the foundationalism that underpins most traditional views of schooling. In such a conceptualization, education is little more than a process of information distribution. The self, if it is considered at all, is little more than a cognitive container for acquiring, recalling, and mentally manipulating information. Inquiry, if taken up as a pedagogical strategy, becomes a tool to catalyze this process of mental acquisition of academic content. At the end of a process of education, the students (the selves) are believed to remain unchanged, save acquisition of academic content and improved skills for mental manipulation of that content. Faculty, as Pinker vehemently argues, have no effect on and therefore bear no responsibility to the selves who enter their classrooms. Education is a simple distribution of information.

By understanding the connection between Dewey's theory of inquiry and his view of the self, it becomes apparent why such a position is a massive error in thinking. For Dewey, the self is neither an *a priori* essence nor ontologically discreet from the world, but emerges in and through transacting with the world - through the processes and practice of inquiry. Education is not a process of knowledge acquisition viewed as a gnostic concept, but a transformational process of growth and social-self creation. It is a process of humanization as we create and reconstruct our very being.

One of Dewey's most quoted statements is that education is not preparation for life, but is the very act of life itself (Dewey 1893/1971, p 50). This idea is also perhaps the most misunderstood of all his educational claims and certainly the least acted upon.

This claim from Dewey is one of the earliest in his continued concern

for educating *in the present*—a view he contrasts against education of the past or for an imagined future (see Dewey, 1916/1980 pp. 59-88). Education in the present means taking seriously the idea that education should involve students meaningfully and directly in their present experience as a way of constructing themselves and their world. As Dewey (1916/1980) writes “the mistake is not in attaching importance to preparation for future need, but in making it the mainspring of present effort. Because the need of preparation for a continually developing life is great, it is imperative that every energy should be bent to making the present experience as rich and significant as possible. Then as the present merges insensibly into the future, the future is taken care of” (p. 61). To do the opposite—to fill education with solutions from the past to be deployed into an imagined future—is to evacuate inquiry and, therefore, the self from the process of education.

To the contrary, Dewey defines education as a process of present-focused inquiry and, therefore, social-self creation. For him, education is the “reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience” (Dewey, 1916/1980, p. 82). This claim demands that we organize the architectures of education in such a way that they allow students to directly experience and participate in the kinds of ambiguous, value-laden, and relationally complex problems that are constitutive of life itself. In this way, education becomes nothing more and nothing less than an ongoing process of inquiry into present experience as a way of transforming not only what we know, but who we are.

Notes

¹ Dewey’s views were heavily influenced by George Herbert Mead, who was Dewey’s close friend and collaborator. In articulating Dewey’s theory of self I will draw heavily from Mead’s position, moving freely between the two. For those unfamiliar with the work of Dewey and Mead, it is important to note that while there are significant overlaps between their philosophical systems, Mead was primarily interested in employing philosophy as a way to explain how participation in the flow of coordinated action (i.e. immediate meaningful responses) transforms into consciousness of meaning (i.e., the awareness of the distinction between “the thing” and “what it means”) (Biesta 1998, p 92). Dewey’s primary concern, which is interrelated with Mead’s, focuses more specifically on the construction, interpretation, and consequences of meaningful action for self and society.

² Specifically, Thorndike (1918) argued that “Whatever exists at all, exists in some amount. To know it thoroughly involves knowing its quantity as well as its quality” (p. 16). The assumption Thorndike makes is that it is only possible to know those things which can be measured and, therefore, measurement is

the ground for understanding everything which exists in the universe. Here, measurement serves as Thorndike's transcendental signifier.

³ Here it might be assumed that contemporary constructivism has refuted this position but, at the ground, many constructivist paradigms still hold a foundationalist epistemology (Garrison, 1995; Phillips, 1995; Vanderstraeten, 2002).

⁴ With limited space available, I am only able to summarize the details of Dewey's theory of inquiry. I would refer readers to *Logic: the theory of inquiry* (1938/1976), particularly pages 105-122.

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