Taking the Edusemiotic Turn: A Body–mind Approach to Education

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Educational philosophy in English-speaking countries tends to be informed mainly by analytic philosophy common to Western thinking. A welcome alternative is provided by pragmatism in the tradition of Peirce, James and Dewey. Still, the habit of the so-called linguistic turn has a firm grip in terms of analytic philosophy based on the logic of non-contradiction as the excluded middle. A body–mind approach pertains to the edusemiotic turn that this article elucidates. Importantly, semiotics is not illogical but is informed by the paradoxical logic of the included middle. The process of reasoning is however indirect or mediated; it involves active interpretation (in a variety of forms) versus direct representation; it is analogical and connects what are otherwise doomed to remain isolated substances of body versus mind with a separation of knowledge and action. Analysing and synthesising the philosophies of Charles Sanders Peirce and Gilles Deleuze, together with a brief excursion into the cutting-edge science of coordination dynamics, this article will demonstrate how the body–mind assemblage is created in practice, and what may be the implications of such a stance for educational philosophy and pedagogical practice.

INTRODUCTION

The term ‘edusemiotic turn’ in the title of this article is a neologism modelled on the so called linguistic turn in philosophy as well as on its counterpart, ‘the pragmatic turn’ (Bernstein, 2010) informed by the ideas that were developed by classical American pragmatists such as John Dewey, Charles S. Peirce, William James and George H. Mead. A defining feature of pragmatism is its critique of Cartesian substance dualism that still informs much of philosophy and, by implication, philosophy of education as well as educational research methodologies. Philosophers in the pragmatic (versus analytic) tradition reject a sharp dichotomy between subject and object, body and mind, as well as an epistemology reduced to
the spectator theory of knowledge. Still, to keep this rejection from just being a slogan is a demanding task that requires a thorough analysis of philosophical sources that could contribute to accomplishing such a challenge. Toward this end, this article will analyse two important sources crossing over the pragmatic and continental traditions so as to enable educational philosophy to indeed take the edusemiotic turn.

The word edusemiotics—an abbreviation for educational semiotics—was coined by Marcel Danesi as a subtitle for his Foreword to the recent volume Semiotics Education Experience (Semetsky, 2010b). Stressing the importance of ‘sculpting a veritable edusemiotics for the future’ (Danesi, 2010, p. vii; italics in original), Danesi commented that ‘until recently, the idea of amalgamating signs with learning theory and education to establish a new branch, which can be called edusemiotics, has never really crystallised, even though the great Russian psychologist Lev S. Vygotsky had remarked . . . that . . . human beings actively remember with the help of signs’ . . . In these words can be detected the raison d’être for establishing a connection between semiotics as the science of signs, learning theory or the science of how signs are learned, and education, that is, the practical art/science of teaching individuals how to interpret and understand signs’ (2010, p. vii). Semiotics generalises signs as embedded in any medium or sensory modality, hence not only broadening the range of sign-systems and sign-relations but simultaneously extending the very definition of logic as irreducible to syllogistic reason but partaking of, rather paradoxically, its analogical or dialogical dimension.

This article will bridge the pragmatic and continental philosophies by focusing specifically on Charles Sanders Peirce’s logic and Gilles Deleuze’s a-signifying semiotics to consider their impact on/for the anti-dualist—body∼mind—approach to education. The squiggle ‘∼’ (tilde) in between the words body and mind is used deliberately. It functions as an index of the complementary relation between what dualistic philosophy habitually considers as binary opposites and is borrowed from the cutting-edge science of coordination dynamics (Kelso and Engstrøm, 2006) to be also addressed in this article. Bringing the discourse in science into the conversation in the area of educational philosophy will not only cross the divide between sciences and humanities but will emphasise the rationality of philosophy as semiotics—even as its logic exceeds and spills over the limitations of analytic reason and verbal (conscious) discourse. Contemporary semiotician Floyd Merrell (2002) suggested the all-encompassing term bodymind, and Andrew Stables (2005, 2010) stated clearly that human experience as specifically a ‘semiotic engagement’ with life entails the collapse of mind-body dualism.

**PEIRCE’S LOGIC AS TRIADIC SEMIOTICS**

For Peirce, logic is ‘a science of the necessary laws of thought, or, still better (thought always taking place by means of signs), it is a general semeiotic, treating not merely of truth, but also of the general conditions of
signs being signs’ (Peirce, CP 1. 444). As a study of signs, semiotics considers the emphasis on truth-conditions reductive but focuses on signs’ meaning or signification. Peirce defined intelligence as scientific if it could use signs and become ‘capable of learning by experience’ (Peirce, CP 2.227). Learning by, and from, experience expands the walls of the traditional classroom and opens it to the greater, social and natural, world. Analogously, it problematises the role of formal instruction. As John Dewey (1916/1924) asserted, ‘to “learn from experience” is to make a backward and forward connection [that] . . . becomes instruction—discovery of the connection of things’ (p. 164). The absence of instruction makes learning by means of using signs a modality of informal, cultural pedagogy oriented to making connections between disparate facts which abound in experience so as to discover its meaning or value; the dimension of meaning is thus implied. Edusemiotics is not reducible to teaching ‘true’ facts but aims to enrich experience with meanings and values.

In this article the word sign refers to the definition as elaborated by Peirce: a sign can be anything that stands for something else, its object, in such a relation so as to generate another sign, called by Peirce an interpretant. It is an interpretant that creates a meaning for the sign or provides human experience with value. In the semiotic framework advanced by Peirce, logic is not reduced to a direct, or unmediated, relation between a sign and its object that leaves no room for a sign’s potential meaning. A genuine Peircian sign is full of meaning almost literally: meaning is produced in a specifically triadic relation between a sign and its object when mediated by the inclusion of the third category of an interpretant. Genuine signs have a relational structure in which a sign corresponds with, or relates to, its object. The logic of signs is therefore triadic as characterised by the included middle, in contrast to the logic of the excluded middle prevalent in propositional thinking.

Peirce’s semiotics presents logic not as the logicians’ invention but as a ratio which is always already embedded in human praxis and the natural world alike that together form one coherent whole via the network of relations. Peircian holism problematises ‘the psychical and the physical aspect of matter as two aspects absolutely distinct’ (Peirce, CP 6.268). A semiotic triangle representing a genuine (as opposed to degenerate) sign will combine a sign per se (that Peirce alternatively called a representamen) with what it stands for, its object, via an interpretant as the included, third, category (Figure 1).

Peirce classified all signs in terms of basic categories of Firstness, Secondness and Thirdness: ‘First is the conception of being or existing independent of anything else. Second is the conception of being relative to, the conception of reaction with, something else. Third is the conception of mediation, whereby first and second are brought into relation. . . . In psychology Feeling is First, Sense of reaction Second, General conception Third, or mediation. . . . Chance is First, Law is Second, the tendency to take habits is Third. Mind is First, Matter is Second, Evolution is Third’ (Peirce, CP 6.7). The relation between body and mind is thoroughly semiotic: because matter (Second) is effete mind (First), mind (First) has to be
entrenched in habits (Thirds) so as to congeal into matter (Second). A sign has a paradoxical three-relative structure in which a genuine triad as ‘the relation-of-the-sign-to-its-object becomes the object of the new sign’ (Sheriff, 1994, p. 37) subject to a subsequent string of interpretants as demonstrated by the semiotic triangle in Figure 1.

Presenting a synopsis of a triadic sign, Winfried Nöth traces its definitions and different terminology from Plato, to the Stoics, to Peirce, to Ogden and Richards (Nöth, 1995, pp. 90–91) and notices that in order to construct a semiotic triangle (Figure 2) connecting, in the most general terms, sign-vehicle, sense (or meaning), and referent, the path of mediation, represented by a dotted line between a sign-vehicle and a referent, is imperative.

It is due to an indirect ‘communication’ filling up the dotted line between a sign and a referent (or its object) that a meaning, or sense, is produced: ‘sense is the mediator of the referent’ (Nöth, 1995, p. 89). A sign is essentially a relational entity that indicates something other than itself which is not immediately apparent. It needs mediation between itself and its own other, in the process comprising a series of interpretants which can be always further interpreted (as symbolised by the dotted line), therefore replacing a single truth of analytic philosophy with a wealth of multiple,
and potentially unlimited, meanings embedded in the dynamics of the
evolution of signs called by Peirce *semiosis*. It is the ‘Third, or mediation’
(Peirce, CP 6.7) that connects the otherwise binary opposites of subject and
object, mind and matter, self and other.

We are signs among signs in a world ‘perfused with signs, if . . . not
composed exclusively of signs’ (Peirce, CP 5.448). Hence, like every sign,
we also have the potential to grow and to become ‘more fully developed’
(Peirce, CP 5.594) signs—this is the major premise of edusemiotics as a
philosophy of/for education. The implications are profound. As Dewey
pointed out, ‘What [a person] gets and gives as a human being, a being
with desires, emotions and ideas, is . . . a widening and deepening of
conscious life—a more intense, disciplined, and expanding realization
of meanings . . . And education is not a mere means to such a life.
Education is such a life’ (Dewey, 1916/1924, p. 417). The realisation of
meanings is thus germane to edusemiotics and is produced in relations.
Relation is ‘ontologically basic’ (Noddings, 2010, p. 390) and therefore
defies stable substances as the furniture of the world presupposed by the
analytic tradition.

Logic as semiotics involves interpretation—in a variety of guises—
versus direct representation. Yet for modern Western philosophy—and, by
implication, Western education—historically ‘there could be no tertium
quid’ (Merrell, 2002, p. 204) as the included third between two ‘things’
usually perceived as opposites. Such *tertium* is a distinguishing feature of
edusemiotics and performs the function of reconciliation, analogy, or inte-
gration between what Cartesian dualism posits as the opposites of, in
generic terms, A and not-A. Self-other integration thus becomes possible
via their ‘reconciliation’ (Kelso and Engstrøm, 2006, p. 63) in contrast
to their ‘conflicting, or competing aspects—*contraries*’ (p. 186), and
relational ethics necessarily recapitulates the ontology of relations (cf.
Semetsky, 2010a).

Kelso and Engstrøm posit the new science of coordination dynamics
embedded in ‘the complementary nature’ (the title of their 2006 book) and
use the symbol ‘∼’, the squiggle (tilde), to indicate the fundamental relation
as an unorthodox syntax—*ratio*, as we said earlier—intrinsic to the
complex world of relations. They contend that complex Nature (with a
capital N) is *complementary*, that is what we perceive as dual opposites are
in fact bipolar and relate to each other via the relation symbolised by ‘∼’.
The empirical science of coordination dynamics ‘provides a vocabulary as
well as a rich scientific basis for our *philosophy of complementary pairs*’
(Kelso and Engstrøm, 2006, p. 10; italics in original). And so does semi-
otics, the science of signs! The relation expressed by tilde plays the
same integrative or reconciling role as the included middle of Peircean
interpreters.

Integrative practices are largely absent among Western educational
systems and relegated to Eastern traditions and philosophies (cf. Roberts,
2012) such as Tao, Yoga, and Buddhism. Education habitually confines
itself to narrow instrumental rationality, the logic of which is reduced
to reasoning directly from premise to conclusion without risking any
uncertain interpretation. So in the West, philosophy and education alike continue to suffer from the great bifurcation between sign and object, between mind and body, or—at the sociocultural level—between self and other. Yet it is by virtue of relations that ‘all thinking is dialogic in form’ (Peirce, CP 6.338).

It is the flow of semiosis permeated by interpretants (both human and non-human) that creates a symbolic dialogue between what are otherwise doomed to remain two separate Cartesian substances—res extensa (corporeal; material; body) and res cogitans (incorporeal; immaterial; mind)—and thus makes them ‘inextricably connected to each other’ (Kelso and Engstrøm, 2006, p. 186). Edusemiotics as philosophy of education therefore aims toward ultimately ‘organizing a sense of self–other’ (Kelso and Engstrøm, 2006, p. 253) as a holistic structure or complementary, coordinated, pair, especially significant for our relations with others in interpersonal and sociopolitical contexts. Indeed, Dewey (1925/1958) pointed out the necessity of coordinated participation in life situations as the essence of democratic education.

Peircean holism implies an analogy—indeed, coordination—between two different aspects of one total process: matter is mind, yet whose habits became so fixed and rigid that there is no way for the ‘mind’ in question either to take a new habit or break an old one. His categories are described in numbers that are cardinal (not simply ordinal, like a sequential first, second or third). By definition, Secondness contains one and two, so there is Firstness in Secondness, and there are three in the Third so that Thirdness must always already contain Firstness in itself. Habit-taking as an evolutionary process (the cardinal Thirdness) includes Firstness in the form of chance, a subtle feeling, or the freedom of creativity as a precondition of its own dynamics. Habits are dispositions to act in a certain manner under specific circumstances of experience. Habits are unconscious, and a challenging task is a habit-change that Peirce expresses in terms of ‘modification of a person’s tendencies toward action’ (Peirce, CP 5.476) in the form of the final interpretant at the meta-level of practice.

Peirce emphasised a self-generating ‘tendency of all things to take habits’ (Peirce, CP 6.101) in the form of Thirdness representing a continuous flow (CP 1.412) of semiosis. A genuine sign has a self-referential structure, as per the triangles in Figures 1 and 2. A triangle necessarily closes on itself, even as such self-reference appears to ‘have been making trouble for philosophers for centuries’ (Kelso and Engstrøm, 2006, p. 253)—read, for analytic philosophers who would label it circular, hence logically invalid. It is a series of interpretants that leads to new meanings arising as the outcomes of learning from lived experience and elicits the transformation of habits due to revaluation—or, using Dewey’s term, reorganisation—of this very experience. Dewey affirmed the value of lived experience: if ‘education . . . is identical with the operation of living a life which is fruitful and . . . significant [then the] ultimate [educational] value . . . is just the process of living itself’ (Dewey, 1916/1924, p. 248).

A sign’s self-referential closure eventually establishes identity, yet with a difference: an edusemiotic, interpretive, process not only creates ‘in the

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mind of a person an equivalent sign [but] . . . a more developed sign’ (Peirce, CP 2.228) because of a new meaning. It is due to ‘synthetic consciousness [and] sense of learning’ (Peirce, CP 1.377) via the paradoxical ‘mediated immediacy’ (Peirce, CP 5.181) of the included Third of an interpretant that a novel meaning is created. While a semiotic triangle does close on itself, a triadic structure indicates a sign becoming different from itself because it is interpreted! The paradox is obvious, but only at first sight: the creative logic of the included middle, as a feature of semiotics, does appear to be self-contradictory in contrast to the propositional logic of analytic philosophy based on the principles of non-contradiction and the excluded middle. But paradoxical; that is, ‘a self-contradictory proposition is not meaningless; it means too much’ (Peirce, CP 2.352). Semiotics recognises that the principle of non-contradiction is not all there is to logic.

The dyadic relation would not lead to the creation of meanings or new conceptual understanding: a sign, ‘in order to fulfil its office, to actualize its potency, must be compelled by its object’ (Peirce, CP 5.554), therefore it strives to leap from the unconscious into consciousness by means of integration via a peculiar, imperceptible and non-verbal, form of inference that Peirce called abduction. The unconscious realm forms a deep psychological ground for habits: Peirce’s ‘general idea . . . is already determinative of acts in the future to an extent to which it is not now conscious’ (CP 6.156). He used the terms ampliative and explicative to differentiate between modes of reasoning that aim not only at plainly increasing prior conscious knowledge but also at making implicit, unconscious and tacit ‘knowledge’ explicit. As Stables (2010) points out, there is no ‘clear demarcating line between “signs”, as conscious elements of human communication, such as words or visual symbols, and “signals”, as unconscious, often non-human prompts to action that might be regarded as instinctive’ (p. 22).

Considering the implication of Peircean holism for education, we may face the following challenge: if the edusemiotic turn entails the transformation of habits (signs are indeed evolving signs) but habits are unconscious, the challenge remains of how to access the deep unconscious level that expresses itself in a manner different to the language of propositions? Thought-signs, in addition to symbols, include ‘pictures or diagrams or other images (. . . Icons) [and] signs more or less analogous to symptoms (. . . Indices) . . . The substance of thoughts consists of these three species of ingredients’ (Peirce, CP 6. 338). A perfect sign blends all three semiotic elements, so that an as yet unarticulated mental image is always already present in the products of the intellect such as concepts or judgements expressed, in the final analysis, in verbal language. This means that a conscious judgement ‘proper’ would necessarily include an element of Firstness as a gut feeling ‘located’ outside of formal syllogistic reasoning. This dimension represents the very interface with non-human nature, outside the narrow boundaries of the isolated Cartesian Cogito.

Abduction may appear to function like intuition, however for Peirce there is no immediate intuition, as of Descartes: all cognition is mediated by signs and logical inferences include deduction, induction and abduction. The latter also ‘speaks’ but not in the propositional language of
consciousness; the language of the unconscious habits is that of images (Semetsky, 2011) and paralinguistic signs. Peirce noticed that ‘the first premise is not actually thought, though it is in the mind habitually. This, of itself, would not make the inference unconscious. But it is so because it is not recognized as an inference; the conclusion is accepted without our knowing how’ (CP 8.65). In the conversation with his student Jastrow, Peirce commented that the ‘insight of females as well as certain “telepathic” phenomena may be explained in this way. Such faint sensations ought to be fully studied by the psychologist and assiduously cultivated by every man’ (in Hacking, 1990, p. 206). Peirce emphasised diagrammatic reasoning when moving ‘from one diagram to the other . . . [we] will . . . see something . . . that is of a general nature’ (Peirce, CP 5.148).

These ontological *generals* are real independently of their having been already actualised in one’s experience. Reality is not reduced to the actual, in fact ‘the will be’s, the actually is’s and the have beens are not the sum of the reals. They only cover actuality. There are besides would be’s and can be’s that are real’ (Peirce, CP 8.216). The reality of these counterfactuals is however ‘altogether virtual [and contained] not in what is actually thought, but in what this thought may be connected with in representation’ (Peirce, CP 5.289); cognition is a function of interpretation: ‘A man denotes whatever is the object of his attention at the moment; he connotes whatever he knows or feels of this object, and is the incarnation of this form . . . his interpretant is the future memory of this cognition, his future self’ (Peirce, CP 7.591).

The incarnation of the form is expressed in a body–mind relation and not just in one’s consciousness. It is the logic of the included middle that ‘brings information . . . determines the idea and gives it body’ (Peirce, CP 1.537), thus forming a body–mind complementary pair! Mind and body coalesce, as do knowledge and action. However here we meet yet another *challenge* that went unnoticed in ‘progressive’ classrooms modelled on Dewey’s educational philosophy and informed by the slogan ‘learning by doing’. Dewey’s example is poignant:

> I am told that there is a swimming school in a certain city where youth are taught to swim without going into water, being repeatedly drilled in the various movements which are necessary for swimming. When one of the young men so trained was asked what he did when he got into water, he laconically replied, ‘Sunk’ (Dewey, 1964, p. 116).

Such practical ‘doing’ needs to be explored theoretically more carefully: it has its nuances. The next section, devoted to analysis of Deleuze’s philosophy, will elucidate them.

**GILLES DELEUZE’S A-SIGNIFYING SEMIOTICS**

Deleuze and Guattari’s semiotics is a conceptual mix of Peirce’s logic of relations and Hjelmslev’s linguistics; both frameworks are taken to oppose
Saussurean semiology. Deleuze is an odd figure in continental philosophy by virtue of the affinity of his thought with the pragmatic tradition (Semetsky, 2006) and especially, in the context of education, with the Deweyan legacy (Semetsky, 2003). For Deleuze, there is no identity between a signifier and signified, between word and object, rather both are variables in a mutual assemblage. Fixed facts give way to the production of new meanings in accord with the logic of sense (Deleuze, 1990) and linguistic truths are not all there is: we ‘are wrong to believe in truth; there are only interpretations’ (Deleuze, 2000, p. 92). Deleuze (2000) discusses Proust’s *A la recherche du temps perdu* as the story of the narrator’s learning in terms of apprenticeship in signs, tracing the stages whereby young Marcel learns that signs are to be apprehended in terms of neither objective nor subjective criteria, but solely in terms of their problematic instances immanent to experience, to life.

For Deleuze, the theory of signs is meaningless without the relation between signs and the corresponding apprenticeship in practice. He notices the dynamic character of signs, that is, their having an ‘increasingly intimate’ (Deleuze, 2000, p. 88) relation with their enfolded and involuted meanings so that truth becomes contingent and subordinate to interpretation. Dyadic, or binary, signification, which *a priori* excludes a middle term as the aforementioned *tertium*, is replaced by triadic, a-signifying semiotics, and Deleuze and Guattari indeed employ Peirce’s notion of a diagram as a constructive part of sign-dynamics. A diagram is a semiotic bridge, a diagonal connection that, by means of double articulations, connects two ‘inseparable planes in reciprocal presupposition’ (Deleuze and Guattari, 1987, p. 109). These planes can take many guises: the body–mind assemblage has its ontological and epistemic dimensions.

Deleuze’s philosophical method is that of transcendental empiricism, the name itself implying a contradiction in terms from the viewpoint of analytic philosophy and the logic of the excluded middle. Yet, his unorthodox philosophy—just like Peirce’s semiotics—is ‘fundamentally linked to logic—a logic of multiplicities’ (Deleuze and Parnet, 1987, p. viii) in which the function of Peirce’s interpretant as the included middle is performed by the radical conjunction *and*. Taking two apparent opposites, A versus B, Deleuze connects them in one assemblage, analogous to the aforementioned bipolar pair: ‘A *and* B. The AND is . . . the path of all relations, which makes relations shoot outside their terms’ (Deleuze and Parnet, 1987, p. 57). The conjunction *and* is ‘a third’ (p. 131) that connects a signifier with a signified, a sign with its object. This logic is expressed in the science of coordination dynamics by means of a squiggle (tilde) as the unorthodox syntax pertaining to a generic complementary pair A∼B or A∼not-A. Such is Deleuze’s logic of multiplicities, each multiplicity being a relational entity, a genuine sign. Instead of linear reasoning, multiplicities form ‘a Harlequin’s jacket or patchwork . . . This geography of relations is particularly important . . . one must make the encounter with relations penetrate and corrupt everything, undermine being . . . The AND . . . sub-tends all relations . . . The AND as extra-being, inter-being’ (Deleuze and Parnet, 1987, pp. 55–57).
For Deleuze, philosophers, writers and artists are first and foremost semioticians and symptomatologists: they read, interpret and create signs, which are ‘the symptoms of life . . . There is a profound link between signs, events, life and vitalism’ (Deleuze, 1995, p. 143). To his list of philosophers, writers and artists we should now add educators as (edu)semioticians. For Deleuze, the theory of signs is meaningless without the relation between signs and the corresponding apprenticeship in practice, in life, in experience. Meanings are not given but depend on signs entering ‘into the surface organization which ensures the resonance of two series’ (Deleuze, 1990, p. 104), which converge so as to become ‘both word and object at once’ (Deleuze, 1990, p. 51).

Similar to Peirce, Deleuze’s semiotics is irreducible to just linguistic signs. There are extra-linguistic semiotic categories analogous to Peirce’s icons, such as memories or images. Semiotically, discursive and non-discursive formations are connected by virtue of transversal communication (cf. Semetsky, 2009), transversality being a concept that encompasses psychic, social, and even ontological dimensions. As a semiotic category, transversality—the included Third—exceeds verbal communication by means of propositional language and applies to diverse regimes of signs. The semiotic process, based on the logic of included middle, is the basis for the production of subjectivity (cf. Semetsky, 2003) via multiple lines of becomings that, not unlike Peirce’s series of interpretants, represent the included third between a sign and its object. A transversal line inserts itself ‘not so much . . . in their opposition as in their complementarity’ (Deleuze and Parnet, 1987, p. 131) in accord with the logic of the included middle.

The relationship between subject and object is of the nature of reciprocal presupposition. Subject, which is always in process as becoming-other, offers to itself—due to transversal, indirect, communication—the object of its own signs, the object of itself. A semiotic triangle must close on itself! The task of philosophy, for Deleuze, is the creation of concepts, and, in accord with a-signifying semiotics, a concept has no fixed reference; it is self-referential, positing itself together with its object at the moment of its own creation as a function of learning from experience. Signs always become other signs via the string of interpretants. A map, or a diagram, engenders the territory to which it is supposed to refer: a static representation of the order of references giving way to a relational dynamics of the order of meanings.

The criterion for meaning is \textit{a posteriori} and is a function of living and learning. Irreducible to verbal propositions, meaning is ‘defined’ by our actions as the \textit{embodiment} or a specific ‘form in which the proposition becomes applicable to human conduct’ (Peirce, CP 5.425) in accordance with Peirce’s theory of meaning expressed in his pragmatic maxim: ‘Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then our conception of these effects is the whole of our conception of the object’ (Peirce, CP 5.402).

In his magnum opus \textit{Difference and Repetition}, Deleuze’s example of swimming as a novice athlete’s learning experience expands on Dewey’s which we quoted earlier:
Learning to swim or learning a foreign language means composing the singular points of one’s own body or one’s own language with those of another shape or element, which tears us apart but also propels us into a hitherto unknown and unheard-of world of problems. To what are we dedicated if not to those problems which demand the very transformation of our body and our language? In short, representation and knowledge are modelled entirely upon propositions of consciousness which designate cases of solution, but those propositions by themselves give a completely inaccurate notion of the instance which engenders them as cases, and which they resolve or conclude. By contrast, the Idea and ‘learning’ express that extra-propositional or subrepresentative problematic instance: the presentation of the unconscious, not the representation of consciousness’ (Deleuze, 1994, p. 192; emphasis added).

This extra-propositional logic—which would by necessity include the Thirdness of interpretation as embedded in creative action necessitated by the as yet unknown ‘world of problems’—was called by Dewey ‘superpropositional’ (Dewey, 1934/1980, p. 85) in a striking resemblance to Deleuze’s trope. A swimmer is learning how to swim because the means she uses when she encounters an experiential problem—not to sink but to swim—are intrinsic to the whole situation and embedded in what Dewey called transaction between the organism and its environment. Thus the very ‘activity of learning [become] completely one with what results from it. . . . Means and ends coalesce’ (Dewey, 1934/1980, p. 198) as they are surely supposed to do in accord with the self-referential structure of a genuine sign as per Figures 1 and 2.

Deleuze suggests that genuine education proceeds through a deregulation of the senses and a shock produced by a real problematic encounter that compels thought against its conscious will to go beyond its ordinary operations towards novel knowledge that, in this example, is the new knowledge of swimming embodied in a novice swimmer’s very action: indeed a body–mind pair. A triadic body–mind structure appears paradoxical, but only within strictly analytic reason. Deleuze addresses paradoxes of logic in his book The Logic of Sense (Deleuze, 1990). The French word sens means at once sense (or meaning) and direction of the course of action that we may take in our practical lives. The logic of sense, as Deleuze scholar James Williams points out, is not ‘the logic of a language. It is a description of the [semiotic] structures that appear when being is understood as the encounter of events and series’ (Williams, 2008, p. 23; brackets added). Williams notices that the key cases in Deleuze’s book do relate to contradictions and paradoxes, and Deleuze demonstrates how these indeed ‘make sense’ despite their apparent ‘logical invalidity’ (Williams, 2008, p. 24) from the perspective of the classical logic of the excluded middle.

We can now understand that to learn by doing in terms of imitating teachers’ examples (even if ‘being repeatedly drilled’ to do so, as Dewey said) would be counterproductive to the edusemiotic ethos. Learning to swim or, for that matter, learning a foreign, yet unknown, language, as per
Deleuze’s aforementioned quote, involves exactly the same process of engaging with signs: apprenticeship in signs (cf. Semetsky, 2007) that includes the dimension of the unconscious or the ‘body’ part in the body–mind complementary pair. Sure enough, the task of education consists in nurturing a particular ‘type of mind competent to maintain an economical balance of the unconscious and the conscious’ (Dewey, 1991, pp. 215–216) through the Deleuzian conjunction and between body and mind. In terms of practical participation, in contrast to the spectator theory of knowledge, education is a function of an encounter with the unknown, when brute facts as Peircean Seconds intervene in our very experience and shock our habitual modes of thinking and being.

Does this mean that pedagogical practice needs to be full of shocks? Of course not. The edusemiotic turn would afford giving enough room to students themselves to produce their abductive guesses and duly ‘unfinished’ processes as a paradoxical ‘product’ of education understood as apprenticeship in signs; and for teachers accepting these activities as genuine learning, contrary to the isolated ‘end’ represented by standardised testing. Means and ends are supposed to coalesce, as we said, citing Dewey.

Deleuze’s words are paradigmatic for edusemiotics as philosophy of education:

[W]e learn nothing from those who say: ‘Do as I do’. Our only teachers are those who tell us to ‘do with me’, and are able to emit signs to be developed in heterogeneity rather than propose gestures for us to reproduce. . . . When a body combines some of its own distinctive points with those of a wave, it espouses the principle of a repetition which is no longer that of the Same, but involves the Other—involves difference, from one wave and one gesture to another, and carries that difference through the repetitive space thereby constituted. To learn is indeed to constitute this space of an encounter with signs, in which the distinctive points renew themselves in each other, and repetition takes shape while disguising itself (Deleuze, 1994, p. 23).

For Deleuze, a conscious ‘intentionality . . . is surpassed by the fold of Being’ (Deleuze, 1988, p. 110) and ‘we go from fold to fold’ (Deleuze, 1993, p. 17) in the process of growth as self-formation, akin to Peirce’s semiosis, by virtue of ourselves-becoming-other when equipped with novel knowledge. The fold, defined by Deleuze as ‘the inside of the outside’ (Deleuze, 1988, p. 97), serves as a powerful metaphor for overcoming habitual dualisms, thus making the inside and the outside, the inner and the outer, consciousness and the unconscious, mind and body not separate substances but relational entities or signs described in terms of ‘nonmetric, acentered, rhizomatic multiplicities’ (Deleuze and Guattari, 1987, p. 381). The edusemiotic turn indeed turns away from consciousness as the sole constituent of thought; but towards ‘an unconscious of thought [which is] just as profound as the unknown of the body’ (Deleuze, 1988, p. 19; Deleuze’s italics). We apprehend experience not by grounding empirical
particulars in abstract universals but by experimentation, by extending mind to the level of the body when a novel concept becomes created in practice:

[A]s object of an encounter, as a here-and-now, . . . from which emerge inexhaustibly ever new, differently distributed ‘heres’ and ‘nows’. . . . I make, remake and unmake my concepts along a moving horizon, from an always decentered center, from an always displaced periphery which repeats and differentiates them (Deleuze, 1994, pp. xx–xxi).

Such is Deleuze’s pedagogy of the concept that, according to Michael Peters (2004), is indispensible for education. An unconscious of thought expresses itself in terms of subliminal, or micro-, perceptions (Deleuze, 1993) that as such become part of the cartographic microanalysis, which involves mapping of ‘an unconscious psychic mechanism that engenders the perceived in consciousness’ (Deleuze, 1993, p. 95). Still, how do we practically make, remake and unmake the concepts? There is something of the Socratic paradox here articulated in Plato’s famous Meno dialogue (cf. Semetsky, 2005): how do we become conscious of the unconscious? This represents yet another challenge in addition to the two already addressed in this article: how do we become aware of unconscious habits so that they are indeed transformed? How do we conduct pedagogical assessment based on students’ tacit knowledge if activity (body) and result (mind) indeed coalesce as we noticed earlier?

Deleuze’s method for integrating the unconscious is empirical as embedded in the multiple contexts, situations and events representing the wealth of human experiences; yet it is radically transcendental because the foundations of empirical principles are left outside our common faculties of perception so that we have to transcend them in practice. He wants to achieve the means to ‘show the imperceptible’ (Deleuze, 1995, p. 45), that is become capable of bridging the dualistic gap between the sensible and the intelligible, matter and mind. His method of transcendental empiricism affirms ‘the double in the doubling process’ (Deleuze, 1988, p. 98). ‘Doubling’ is taken in the sense of unfolding that presupposes the necessary existence of the extra—outside—dimension, without which the concept of fold is meaningless. This extra dimension becomes internalised, enfolded. Therefore the ‘other in me’ (Deleuze, 1988, p. 98) is always implicit—or enfolded—in the unconscious, in the unthought, the subtle language of which is to be made explicit or unfolded via practical, bodily, actions.

CONCLUSION: INTEGRATIVE KNOWLEDGE

It is not enough for the creation of concepts to be informed by empirical sense-data passively received by an independent spectator. The empirical dimension is transcended (Deleuze’s empiricism is radically transcendental) by virtue of multiple affects permeating experience that express
themselves ‘in and through the unconscious, thereby establishing the bond of a profound complicity between nature and mind’ (Deleuze, 1994, p. 165). It is this complicity, the symbolic notation for which is the tilde or squiggle ‘∼’, that forms the complementary body–mind pair. Traditional epistemology used to divide the types of knowledge into knowledge about—or conceptual knowledge—as well as knowledge by acquaintance—or perceptual knowledge. Re-conceptualising epistemology in terms of experiential edusemiotic inquiry brings to the fore a third type of knowledge: interpretive, as embodying a series of Peirce’s interpretants or Deleuze’s conjunctions and.

Let us revisit the example of swimming: a novice athlete learns to swim via intense bodily encounters with waves. She struggles because she is facing the unknown and unthought that includes her not-yet-knowing-how-to swim, and the swimmer’s movement does not resemble the movement of the wave. Nor would it imitate the instructor’s movements given while not in the water but on the shore. Learning cannot be based on an a priori conscious representation; this would be the reproduction of the same, denounced by Deleuze. Instead Deleuze emphasises the ‘sensory-motivity’ (Deleuze, 1994, p. 23) of the genuine learner who, exemplified in the image of the novice athlete, indeed tries to coordinate her own sensor-motor activity with an intense, as if opposite, force of water, as if evaluating her present mode of existence—sink or swim! Such an evaluation is an effect of the encounter with the unknown and the unconscious, as yet unthinkable because it is not conceptual but affective: a learner ‘interprets’ the situation in her very experience. But an interpretive structure is, as we demonstrated in Figures 1 and 2, a self-referential, integrative structure.

We can now construct yet another triad as a genuine sign in which it is an affect that would make the percept a novel concept (Figure 3).

Importantly, affects cannot be reduced to private ‘feelings, they are becomings that spill over beyond whoever lives through them (thereby becoming someone else). . . . Affects, percepts, and concepts are three inseparable forces’ (Deleuze, 1995, p. 127). So the self can indeed become other by breaking old habits amidst the affective, unconscious, folds of experience! Subtle affects and sensations inhabiting the unconscious have ‘the irreducibly synthetic character’ (Deleuze, 2003, p. 33). The synthetic,

![Figure 3: A Triad of Integrative Learning](image)

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and not solely analytic, character of learning is oriented to the emergence of new concepts and meanings as new ways of living at the level of action, thereby transcending the otherwise passive observer and transforming her into an active participant in the process of semiosis, a genuine apprentice in signs.

Such a learner can put into practice a creative logic of education (cf. Semetsky, 2008) as edusemiotics that exceeds and puts to flight the classical logic of the excluded middle. The unfolding of the unconscious in the process of individuation presents ‘life as a work of art’ (Deleuze, 1995, p. 94) that we actively create. In the edusemiotic framework art and science are not opposed to each other: instead they construe one complementary art–science pair (cf. Semetsky, 2013) as a sign of new transdisciplinary (Nicolescu, 2005) education that complements the knowledge of facts with learning to live a meaningful life. Signs always express both sides, partaking of their objects in accord with a genuine triad that transcends, or crosses over, the dualistic gap between the apparent opposites. The swimming example presents the sea as a literal embodiment of fluid uncontrollable forces and the epitome of a ‘substratum in the depth of the subconsciousness, the basic pattern of the relations of the live creature to his environment’ (Dewey, 1934/1980, p. 150).

A swimmer’s real environment is Nature, historically associated with the unconscious as opposed to the conscious rational mind that can ‘conquer’ it. In contrast to this dualistic model, a swimmer learns in practice, in her embodied experience, that thinking is ‘not just a theoretical matter. It [is] to do with vital problems. To do with life itself’ (Deleuze, 1995, p. 105): thought and action coalesce rather than remaining two isolated substances of res cogitans and res extensa.

The program in/of anti-dualistic education which itself would be educated by edusemiotics is however missing, or is presented sporadically in terms of an exotic ‘return’ to the Eastern integrative philosophies and practices. Why hasn’t the logical and law-based Peircean science of signs as semiotics become our new habit of the mind? Why do we customarily subscribe to the dualistic world-view, ignoring the triadic nature of genuine signs with which the world is always already perfused? Well, old habits are resilient and, even if they are subject to evolution and growth, tend to become fixed and rigid while ‘issuing a command to one’s future self’ (Peirce, CP 5.487) that, as such, continues to behave in a repetitive manner according to the gamut of these very habits hiding in the unconscious. Worse, we habitually believe in the righteousness of our actions, without ever questioning them, because ‘belief is . . . a habit of mind essentially enduring for some time and mostly . . . unconscious’ (Peirce, CP 5.417). No doubt, edusemiotics would strongly ‘challenge deeply held beliefs or ways of life’ (Noddings, 2006, p. 1). It is such a challenge that this article meets.

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