Philosophy of Education as a Process-philosophy: Eros and Communication

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Abstract—This paper is dedicated to the victims of those continuing tragic events that started on September 11. Human communication is a crucial factor ensuring the survival of our species. Any message carried through by means of a violent act leading to destruction and self-destruction represents a fundamental breakdown in meaningful communicative activities. As pertaining to the philosophy of education, the problematics of language and communication relates to the understanding of human subjectivity (Garrison 1999a) in terms of human behaviors, actions and thoughts. The paper, by placing the notion of communication in the framework of complex dynamical systems, posits communication as a continuous and open-ended process. The concepts of poiesis, or making, and autopoiesis, as—literally—self-making, or making of the “self”, are critical for describing the dynamics of such a process understood as creative—versus destructive—and potentially leading to the production of new meanings, habits and values.

The paper draws from John Dewey’s philosophy of education devoted to the transformations of our old “habitual attitudes” (Dewey 1922, p. 26) and creation of new, intelligent habits or, as Dewey called them, “organizations” (Dewey 1922, p. 22). The paper also introduces some views on language and communication derived from the works of the French poststructuralist philosopher Gilles Deleuze. Reading Deleuze through the lens of Dewey’s process philosophy strengthens the possibility that “poststructuralism—its genealogy, transmission, development and application—has ongoing significance for educational theory” (Peters 1998, p. 18) as well as for actual classroom practice. If, as a result of such a “coupling” (see further below) of two thought-processes, Dewey’s philosophy itself undergoes some transformation, it only confirms the fact, as Jim Garrison (1995) has indicated, that Dewey would welcome, in accord with his own philosophical project, the reconstruction of his own ideas so as “to better respond to the vicissitudes of new times and contexts” (Garrison 1995, p. 1).

The notion of communication as shared, that is as a process leading to the emergence of commonly shared meanings, questions the accepted view of the Self as autonomous entity, in the tradition of liberal education, and presents human subjectivity as a function of an ongoing complex process of multiple interactions. Epistemology overlaps with ethics, and the educational practice in a classroom becomes a self-organizing process of self-discovery in terms of assigning novel meanings to students’ own experiences.

Keywords—autopoiesis, becoming, complexity, Deleuze, Dewey, difference, desire.

I. THE COMPLEX DYNAMICS OF COMMUNICATION

Jim Garrison, acknowledging the traces of postmodernism in Dewey’s thinking, commented on the impossibility of eliminating “the role of signs, words, and language from the search for our selves and the objects of our thought” (Garrison 1999a, p. 348). Signs, both linguistic and extralinguistic, play a part in the real world by virtue of, in a pragmatic sense, their effects in nature and the human mind.

Both John Dewey and Gilles Deleuze were inspired by Darwinian evolutionary theory, and Deleuze described his philosophy as philosophy-becoming emphasizing its developing and growing character. Considering, however, that evolutionary science is currently undergoing reconstruction in terms of self-
organizing dynamical systems, Deleuze’s notion of *becoming* may be re-conceptualized, from the perspective of the latter, as *autopoiesis*, that is, a process-structure constituting an open non-linear system.

Communicative process as autopoietic would defy education as a linear transmission of some factual knowledge. The complex dynamics (Cilliers 1998, Byrne 1998) inscribed in communication is characterized by the existence of multileveled relations constituting a heterogeneous structure. The complexity theory regards the analysis of the individual components of any system, for example presupposed self-centered, speaking “selves”, to be an insufficient condition to come to terms with the system’s dynamics as a whole, but has to take into consideration many contingencies and intervening variables inscribed in the dynamics of the process.

From the postmodern perspective, complex systems, their being either social or natural and including living systems, language, and education, are indeed complex by virtue of the impossibility of either a single unified theory prescribing their behavior, or even a single metanarrative as sufficient at the descriptive level. A complex system has its dynamics: the interactions within the system change with time, and time itself is one of the intervening variables precluding permanency or constancy of any theory. Complex systems, at every present moment, have their past temporal history and are also future-oriented.

Moreover, the interactions constituting the systems’ dynamics act in a non-linear manner. They are loop-like and defy the direct cause and effect connection. The overall correlations, due to multiple interactions, get modulated and may spread—or become distributed—from the immediate neighboring regions to the far-away territories. Many non-local connections are formed by loops creating interactive feedbacks that contribute to the self-organizing dynamics of the system. Such dynamics is characterized by new properties emerging at the levels that are not immediately connected with the preceding ones but nevertheless continuous with the latter by virtue of the effect produced at a new level. The feedback loops create multiple recurrences and self-referential closures as features enabling the system’s dynamics.

Yet, the system as a whole remains open-ended, that is it exists by means of constant interactions and exchange of energy—or information, in case of communication—with its environment, thereby betraying the notion of a strictly defined border, or a great divide, between its own inside and outside. Philosophically, the emergent meanings cannot be defined as determined by either; instead the possible meanings are conferred by the relations between the structural components of the system at large, those in-between relations becoming a precursor for the distributed representations inscribed in many connections that are potentially effected by the said relations. So the dynamics of complex systems is first and foremost relational.

The communicative process itself is responsible for the continuously changing relations, and the system as a whole in which the process is inscribed, is inherently capable of maintaining itself by virtue of continuous coping and adaptation. The complex system therefore has flexibility and plasticity enabling its own self-organization. Such dynamics of complex adaptive systems has been noted yet by Dewey who, quite in accord with the systems-theoretical viewpoint, emphasized that it is “processes …[that] are self-maintaining” (Dewey 1938, p. 26) and not at all any individual components of a system.

An open-ended process “is determined but unpredictable,” as Doll (1993, p. 72 in Safstrom 1999, p. 229) says addressing the issue of transformative and creative—poetic—languages and relating the concept of self-organization to a postmodern perspective on curriculum development. The process’s organization is enabled by continuous, recursive and self-referential interactions that defy an absolute dichotomy between such categories as “objective reality and subjective experience, facts and fantasy, profane and holy, private and public” (Doll 1993 in Safstrom 1999, p. 229).

The classical definition of complex autopoietic systems is as follows:

An autopoietic system is organized (defined as a unity) as a network of processes of production (transformation and destruction) of components that produces the components that: (1) through their interactions and transformations continuously regenerate and realize the network of processes (relations) that produced them; and (2) constitute it (the machine) as a concrete unity in the space in which they exist by specifying the topological domain of its realization as such a network (Varela 1979, p. 13).

Autopoiesis affirms the living systems as essence-less and the world as open-ended albeit not predicated solely on the interference of a subjective act from the outside. Dewey envisaged that “order is not imposed from without” (Dewey 1934/1980, p. 14)—which would be an extraneous intervention thus making a system allopoietic—“but is made out of the relations of harmonious interactions that energies bear to one another. Because it is active (not anything static …) order itself develops. … Order cannot but be admirable in a world constantly threatened with disorder” (Dewey 1934/1980, p. 15).

The relations embedded in the continual and recursive feedbacks constitute a network of mutual interactions as if establishing a conversation1 (see

1 This conversation, as a feature of autopoietic systems, is not the same as, for example, Richard Rorty’s neopragmatic idea of the linear, back and forth, conversation and discussion. Deleuze and Guattari say: “Rival opinions at the dinner table – is not the eternal Athens…?... This is the
Varela 1979), or a dialogic communication between the system’s heterogeneous levels.

II. DELEUZE, DIFFERENCE, AND DESIRE

Gilles Deleuze’s neopragmatic philosophy is concerned with the creation of novel concepts. A philosophical concept as the effect of thinking becomes an emergent property of the whole process. Such a creative act is a prerogative of an autopoietic system which is organized around “environmental perturbations/compensations” (Varela 1979, p. 167f), effecting communicative activities across the levels. The very act of communication—and communication is in no way limited to exclusively verbal—establishes different and new relations between components because it triggers a compensatory operation, the inside of the system, which itself is part and parcel of the environmental perturbation, the outside. Deleuze described this operation in terms of a diagonal, or transversal, communication which is “neither imitation nor resemblance but… an increase in valence, a resemblance… but… an increase in valence, a resemblance” (Deleuze and Guattari 1987, p. 66). Affects are becomings that traverse one’s old universe of being and thinking, thereby crossing old boundaries. New boundary conditions of the system, or its external structure is being established meanwhile sustaining the integrity of its internal structure, or what Deleuze aptly called the fold of “the inside of the outside” (Deleuze 1988, p. 97).

Autopoiesis is effected by the communicative action expressed by means of the Peircean relation of Thirdness, or continual mediation between “the non-external outside and the non-internal inside” (Deleuze 1994a, pp. 59-60), as Deleuze says emphasizing their interconnectedness. The relation in question establishes coordination that may be defined as “the dialogue between present construct and the problems of the environment that determines the emerging, next stage” (Doll 1993, p. 72 in Safstrom 1999, p. 229). The objects of knowledge, as phenomena of Peirce’s Secondness, are thus contingent on Thirdness.

What makes autopoiesis functional, is the concept identified by Deleuze as difference. For Deleuze, difference is not diversity. Diversity is given, but difference is that by which the given is given.

…Difference is not phenomenon but the noumenon closest to phenomenon… Every phenomenon refers to an inequality by which it is conditioned… Everything which happens and everything which appears is correlated with orders of differences: differences of level, temperature, pressure, tension, potential, difference of intensity (Deleuze 1994a, p. 222).

Everything in the phenomenal world happens, appears, and in fact exists not by virtue of “a property which it possesses…[but only]…by a pervasive and internally integrating quality” (Dewey 1998a, pp. 194-195), or what Peirce called a category of Firstness.

Properties as objects and phenomena of Secondness arise from an act of communication that involves what Deleuze dubbed differentiation (with “t”) when the aforementioned differences of intensity (or levels, or tension) establish a flow of information. For Dewey too, “the pervasive quality is differentiated while at the same time these differentiations are connected” (Dewey 1998a, p. 209), the process of connection—or local integrations—being described by Deleuze by means of differenciation (with “c”) to emphasize its “being like the second part of difference” (Deleuze 1994a, p. 209), the differing difference.

Such a double process of different/ciation, that is the very difference that makes a difference, manifests itself in a type of communication that indeed cannot be reduced to a discussion a la Mr. Rorty. The symbolic communication in question appears to be, as Dewey noticed, “the most wonderful…When communication occurs, all natural events are subject to reconsideration and revision: they are re-adapted to meet the requirements of conversation, whether it be public discourse or that preliminary discourse termed thinking” (Dewey 1925/1958, p. 166), or any communication by means of signs. The logic of relations, or semiosis, ensures readaptation, and new
meanings are created because “events turn into objects, things with meaning” (Dewey 1925/1958, p. 166) as consequences of a complex relational process.

The intensity of difference is a function of yet another fundamental Deleuzian concept, desire, that enters the process and becomes an autocatalytic element building multiple feedbacks, or what in the systems-theory discourse is called structural couplings, at each point of its own entry. As an active principle, desire “practically intervenes in the world of everyday affairs … [and not] merely supervenes theoretically” (Garrison 1997, p. 205) producing a series of “interlocked … communicative interactions” (Varela 1979, p. 48f). The fact of intervention and not supervenience affirms the autopoietic versus allopoietic structure in the system’s organization.

An autopoietic system is, by definition, constituted by movement which is established, in Deleuze’s words, “between the parts of each system and between one system and another which crosses them all, stirs them all up together and subjects them all to the condition which prevents them all to be absolutely closed. It is … a mobile section, … a block of space-time (Deleuze 1986, p. 59). The movement, or the mobility of the process, is not mechanical: Deleuze called it machinic to underline its functioning as not limited to rigid mechanical laws, but as immanent, organic and consistent with the “material universe” (Deleuze 1986, p. 59) understood as an open system.

The desire, or Eros—which is, according to Garrison (1997), the fundamental, albeit implicit, constituent of the educational process—contributes to the reconstruction of Platonic Oneness, that is a unity between the beautiful, the good, and the harmonious. For Deleuze, desire is a positive and active force rather than a reactive one, the latter operating as a sort of negativity by means of the re-action to some lack or need. The subject does not possess desire; just the opposite, it is desire that “produces reality” (Deleuze and Guattari 1987, p. 30) enveloping everything, including human subjects, in itself.

The symbolic Eros “does not take as its object persons or things, but the entire surroundings which it traverses, the vibrations and flows of every sort to which it is joined and in which it introduces breaks and ruptures” (Deleuze and Guattari 1987, p. 292). Multiple interactions bring a momentous discontinuity and break the linearity of the otherwise continuous process, creating a place where difference intervenes and becomes repeated, thus—due to multiple feedbacks onto itself—contributing to the process’s self-organization.

Eros carries the said oneness out from the supernatural realm hereby deterterritorializing it and accordingly reversing the direction of “Plato’s ladder [which is] a one-way ascent” (Dewey 1934/1980, p. 291). While still maintaining this unity as a system’s integrity, Eros brings it down to earth so as to reterritorialize it into the diversity of flesh-and-blood human experiences. Human growth is possible only through participation in the process enacted in rhythmic fluctuations between disequilibrations and restorations of equilibrium at a new level—or the multiple encounters with difference as a precursor to the evolution of meanings.

What Dewey identified as tension is embedded in the constant “rhythm of loss of integration with environment and recovery of union” (Dewey 1934/1980, p. 15). The desire capable of intensifying the difference up to the point of its integration into the process, is the human eros⁴ that is, the passion to create what is good for humans: “everyone passionately desires to possess what is good, or at least what they perceive as good and to live a life of ever-expanding meaning and value” (Garrison 1997, p. 1).

III. PHRONESIS AND INTELLIGENT COMMUNICATION

The evolution of signs from the preceding to the consequent, or the language-structure ensuring an intelligent and shared communication, is a matter of contingency: human growth and the continuous reconstruction of experience based on the “integration of organic-environmental connections” (Dewey 1925/1958, p. 279) in the phenomenal world depends on, as Deleuze says, “veritable becoming-mad” (Deleuze 1990, p. 1). The expressive form of language—an expression, and not a set of logical propositions—is a precondition for “a continual beginning afresh” (Dewey 1916/1924, p. 417), that is, new experiences and novel meanings.

As for phronesis -- or the intelligent method, which is inspired by “the striving to make stability of meanings prevail over the instability of events” (Dewey 1925/1958, p. 50)—it wouldn’t be possible if not for the element of madness, namely, the birth of Eros, embedded in it and in fact having originated this very method. Let us recall the myth: Eros was conceived in a foolish, bordering on a pre-conscious, act that had occurred “in the excesses of intoxication, a kind of madness” (Garrison 1997, p. 7), in the middle and muddle of “a sort of groping experimentation … that … belongs to the order of dreams, … esoteric experiences, drunkenness, and excess” (Deleuze and Guattari 1994, p. 41).

As a chaotic desire, Eros is the pure difference, yet—and in accord with its semiotic Firstness—it is a symbol of union: Eros’ practical skill, techne, is to unite the opposites, to make two a couple, indeed to effectuate the autopoietic structural coupling that may manifest in an instance of what Garrison (1997)

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⁴ See Thomas Alexander (1993) who defines human eros as “a radical impulse. …Culture is the expression of a drive for encountering the world and oneself with a sense of fulfilling meaning and value realized through action” (1993, p. 207).
dubbed a *teachable moment* embedded in the learning process as reorganization of experience. While Eros in itself is “chaotic [and] formless” (Garrison 1997, p. 8), its purpose is nevertheless to *inform*, or to create something new in the act of (self)-expression. Desire is *affect*, it envelops emotions, and “emotion is informed … when it is spent indirectly in search of material and in giving it order” (Dewey 1934/1980, p. 70) therefore participating in the self-organizing process of producing order out of chaos.

The interference of difference ensures a coupling, or a momentous closure of the system open at large, making each end-in-view a temporary means for a new end, hence correcting and ordering the course of events. It is important that the closure in question is not understood as an interrupted movement: the closure is operational and is itself a pre-condition for the continuing dynamics in a sense of it being “the opposite of arrest, of *stasis*” (Dewey 1934/1980, p. 41). As belonging to the dynamical process, it is *becoming* -- itself an in-between event or one of the “many twists in the path of something moving through space like a whirlwind that can materialize at any point” (Deleuze 1995, p. 161).

Platonic Eros, in the process of its own reorganization, that is what Deleuze called de- and, subsequently, re-territorialization, leaves the domain of the philosopher-kings and—while still practicing both poetry and prophecy—“steps outside what’s been thought before, … ventures outside what’s familiar and reassuring” (Deleuze 1995, p. 103). Thinking, enriched with desire, “is always experiencing, experimenting, … and what we experience, experiment with, is …what’s coming into being, what’s new, what’s taking shape” (Deleuze 1995, p. 104). Thoughts-signs become embodied in action, and the thought-experiment assumes a function of what Dewey called deliberation defining it as “a dramatic rehearsal (in imagination) of various competing possible lines of action… Deliberation is an experiment in finding out what the various lines of possible action are really like” (Dewey 1922/1988, p. 132).

Thought thus extends itself spatially, but not only: it also “runs ahead and foresees outcomes, and thereby avoids having to await the instructions of actual failure and disaster” (Dewey 1922/1988, p. 133) therefore extending itself in a temporal sense too. The constructive aspect of a meaningful communication manifests itself by means of creating a multidimensional polysemic space, which is “both extensive and enduring” (Dewey 1925/1958, p. 279). It is a manifold, or *complex place*, as Deleuze called it, and which is filled with potentially new meanings.

The many potentialities in a manifold follow the intelligent choice of a direction, or a possible line of action toward its actualization. The pragmatic method of deliberation includes the Peircean would-be-ness; therefore some, albeit yet uncertain, consequences would take place as an outcome of the imaginative rehearsal of various courses of conduct. We give way in our mind, to some impulse; we try, in our mind, some plan. Following its career through various steps, we find ourselves in imagination in the presence of the consequences that would follow. … Deliberation is dramatic and active (Dewey 1932/Hickman and Alexander 1998, 2, p. 335).

The imagination functions by providing the opportunities to see what is possible, even if only probable, in the actual and, respectively, to decrease the number of dimensions in the space of potentialities simultaneously increasing the number of degrees of freedom in the actual space.

The imagination is active indeed, and “deliberation has the power of genesis” (Garrison 1997, p. 121). As contributing to evolution, development and learning, it “terminates in a modification of the objective order, in the institution of a new object…. It involves a dissolution of old objects and a forming of new ones in a medium …beyond the old object and not yet in a new one” (Dewey 1925/1958, p. 220), but within a “zone of indiscernibility” (Deleuze and Guattari 1994, p. 173) between the two.

The act of imagination—which represents a strictly auto-referential, that is literarily self-organizing, communicative action—completes in a way “the intercourse of the live creature with his surroundings” (Dewey 1934/1980, p. 22) due to which the collection of meanings—yet inactive in the outside of one’s imagination—becomes activated. Those meanings are realized in the process of carrying over “the past into the present that imaginatively anticipates and creatively constructs the future” (Garrison 1997, p. 144). Each present moment is therefore the aforementioned Deleuzian *fold*, or the inside of the outside, thereby reflecting upon the anticipation of new future-oriented meanings.

Due to the flavor of anticipation present in such a synthesis of time, meanings find their way into the here-and-now of the present experience so that “we are carried out beyond ourselves to find ourselves” (Dewey 1934/1980, p. 195). The mode of communication in a creative process is not an agency [but] a release and amplification of energies that enter into it, conferring upon [human beings] the added quality of meaning. The quality of meaning thus introduced is extended and transferred, actually and potentially, from sounds, gestures and marks, to all other things in nature. Natural events become messages to be enjoyed and administered, precisely as are song, fiction, oratory, the giving of advice and instruction (Dewey 1925/1958, p. 174).

A mindful teacher, for whom indeed “language is always a form of action” (Dewey 1925/1980, p. 184), will have to create, in the process of giving the aforementioned advice and instruction, a new non-
representational language of expression, exemplified in what Deleuze called a performative or modulating—that is, always in the making—aspect of language. Such an organic form of action embedded in phronesis is both forward-looking and cooperative.

As driven by human Eros, it is directed toward unity and is oriented toward good, so that “response to another’s act involves contemporaneous response to a thing as entering into the other’s behavior, and this upon both sides. … It constitutes the intelligibility of acts and things. Possession of the capacity to engage in such activity is intelligence” (Dewey 1925/1980, pp. 179-180). The transformation of habits is impossible without an intelligent action, the latter in turn dependent on the meaningful and shared communication.

IV. THE LANGUAGE OF EXPRESSION AND THE CREATION OF MEANINGS

In other words, what becomes a prerequisite for an intelligent and meaningful communication is a structural coupling which is “always mutual: both organism and environment undergo transformations” (Maturana and Varela 1992, p. 102) as a necessary condition of autopoietic systems’ information exchange and creation of meanings. In such “a continuum, … there is no attempt to tell exactly where one begins and the other ends” (Dewey 1934/1980, p. 227), and the language structure goes through the process of its own becoming-other and undergoes a series of transformations giving birth to a new, as if foreign, language.

Deleuze and Guattari (1987), emphasizing the potential of such a language to be truly creative, refer to Proust “who said that ‘masterpieces are written in a kind of foreign language’” (1987, p. 98). The language functions on the margins like any other becoming, that is, in a form of “the outside of language, not outside of it” (Deleuze 1994b, p. 28) or as a limit case of language modulations. The language becomes effective as long as the form of expression exists in assemblage with the form of content. The connection between the two, as described by Deleuze, resembles the relation between substance and form for Dewey: “all language, whatever its medium, involves what is said and how it is said” (Dewey 1934/1980, p. 106).

The reciprocity between the two is derived from the Peircean triadic semiotics or “a different logic of social practice, an intensive and affective logic of the included middle” (Bosteels 1998, p. 151) which defines them “by their mutual solidarity, and neither of them can be identified otherwise” (Deleuze and Guattari 1987, p. 45). In its most effective mode the binary opposition between content and expression becomes blurred, leading to the emergence of a new property: a highly expressive, passionate language, in which an utterance affected by a play of forces becomes an enunciation, or “speaks an idiom” (Dewey 1934/1980, p. 106).

At the ontological level this indicates, for Deleuze, the univocity of Being, that is, the highest possible affirmation of its process-structure. This dynamics is described as a transformation of substances and a dissolution of forms, a passage to the limits or flight from contours in favor of fluid forces, flows, air, light and matter, such that a body or a word does not end at a precise point. We witness the incorporeal power of that intense matter, the material power of that language. … In continuous variations the relevant distinction is no longer between a form of expression and a form of content but between two inseparable planes in reciprocal presupposition. … Gestures and things, voices and sounds, are caught up in the same ‘opera’, swept away by the same shifting effects of stammering, vibrato, tremolo, and overspilling (Deleuze and Guattari 1987, p. 109).

As a marker of in-between-ness, a threshold (or a bifurcation point, in systems-theoretical discourse), Deleuze uses his brilliant metaphor of stuttering: a “Stutterer, thinker of the outside—what better way is there to register the passage of a philosopher?” (Boundas and Olkowski 1994, p. 3). Deleuze’s philosophical thinking is different from a rational consensus: the diagonal, transversal, communication brings irrationality in the world filled with perfect squares. An intellectual understanding gives way to the “intensity, resonance, musical harmony” (Deleuze 1995, p. 86). The rationale of Deleuzian philosophy is pragmatic, and the thinking it produces is experimental and experiential bringing the element of non-thought into a thought, the former, almost by necessity, making the true philosopher think the unthinkable.

It is when expressed by stammering that some new form of content becomes manifest: the intensity of stammering, “a milieu functioning as the conductor of discourse brings together … the whisper, the stutter, … or the vibrato and imparts upon words the resonance of the affect under consideration” (Deleuze 1994b, p. 24). Philosophy, for Deleuze, exists in an “essential and positive relation to nonphilosophy” (Deleuze 1995, p. 140) thus making new means of philosophical expression, exceeding the rational thought alone, imperative.

The new language of expression is as paramount for Deleuze as for philosophers in the liberal tradition but is not limited to its linguistic representation: the language may take either linguistic or non-linguistic forms, from writing to film to hybrids like legible images, or signs. Content and expression, for Deleuze, exist in assemblage comprising a machinic multiplicity functioning in accord with the triadic logic of included middle.

Moving from the dyadic, signifier-signified logic to the triadic a-signifying semiotics, Deleuze and Guattari (1987) assert that the primacy of content as
the determining factor cannot be posited vis-à-vis primacy of expression as a signifying system, such a double articulation breeding dichotomy. For Deleuze, “[u]tterances are not content to describe corresponding states of things: these are rather two non-parallel formalizations, … assembling signs and bodies as heterogeneous components of the same machine” (Deleuze 1987, p. 71). Ranks of order are irrelevant: both content and expression are embedded in a complex, not hierarchical but heterogeneous, system of relations in such a way that one reciprocally presupposes the other.

The metaphoric stuttering which “itself ushers in the words that it affects” (Deleuze 1994b, p. 23) seems to function in a mode of what Dewey called the “total organic resonance” (Dewey 1934/1980, p. 122); as such it is a part and parcel of the semiotic communicative process. As a poetic modulation, stuttering is always creative because the subtle variations of the refrain tend to destabilize language, thus creating a change inscribed in “a grammar of disequilibrium” (Deleuze 1994b, p. 27) or, in Dewey’s words, “a condition of tensional distribution of energies” (Dewey 1925/1958, p. 253).

Consequently, by having produced a state “of uneasy or unstable equilibrium” (Dewey 1925/1958, p. 253)—that is, an a-signifying rupture that allowed the difference to intervene and, by folding onto itself, be repeated—“the transfer from the form of expression to the form of content has been completed” (Deleuze 1994b, p. 26). For Dewey too, this is the repetition, or “recurrence [that] makes novelty possible” (Dewey 1925/1980, p. 253). Pertaining to language in its mediative Thirdness, “content is not a signified nor expression a signifier, …[instead] both are variables in assemblage” (Deleuze and Guattari 1987, p. 91) the latter described by a distributed, non-representational and a-signifying semiotic process.

The language of expression is indeed “taken in its widest sense, a sense wider than oral or written speech. … A tool or machine … is not only physical object … but is also a mode of language. For it says something, to those who understand it, about operations in use and their consequences. … It is composed in a foreign language” (Dewey 1938/Hickman and Alexander 1998, 2, p. 80; see also Biesta 1995, p. 281). The language of expression—and, significantly, both Deleuze and Dewey refer to it as foreign—comprises heterogeneous levels and, because of the instability inscribed in itself, it is creative and full of as yet unknown meanings as consequences of communicative actions.

Such a creative language is described by “style [that] carves differences of potential between which … a spark can flash and break out of language itself, to make us see and think what was lying in the shadow around the words, things we were hardly aware existed” (Deleuze 1995, p. 141). The language may be subtle, sometimes even “like silence, or like stammering … something letting language slip through and making itself heard” (Deleuze 1995, p. 41), or appearing in its extra-linguistic mode of functioning as the regime of signs.

Such a mode of communication is indirect and operates in order “to bring this assemblage of the unconscious to the light of the day, to select the whispering voices, to gather the tribes and secret idioms from which I extract something I call my Self (Moi)” (Deleuze and Guattari 1987, p. 84). The self, when extracted from experiential happenings and occurrences as “a serial course of affairs” (Dewey 1925/1958, p. 232), becomes itself a relational sign-event going by the name moï; indeed “among and within these occurrences, not outside of them nor underlying them, are those events which are denominated selves” (Dewey 1925/1958, p. 232).

The expressionism of an artist in the pragmatic intelligent method complements the constructionism of a craftsman: communication functions in accord with the triadic “logic of artistic construction” (Deleuze 1998a, p. 199). A transformation into a new form takes place at the limit, and the limit in the extreme case is a line of horizon, or vanishing line, which becomes—never mind its being just a symbolic concept derived by Deleuze from projective geometry and Poincare’s mathematics—nonetheless visible and accessible to one’s expanded perception.

V. TRANSFORMATION OF HABITS

Habit, as described by Dewey, is a mode of organization and is indeed autoreferential; it both commands an action but also has “a hold upon us because we are the habit” (Dewey 1922/1988, p. 21). What Deleuze identified as the lines of flight acquire the meaning of an escape from some old habit, or frame of reference, within which the flight is yet a sort of immaterial vanishing through some imaginary event-horizon. Dewey positioned habits as constituting the self in a way of forming its desires and ruling its thoughts. “They are will”, says Dewey (1922/1988, p. 21); but in the affective sense of being “immensely more intimate and fundamental part of ourselves than are vague, general, conscious choices” (Dewey 1922/1988, p. 21).

Sinking toward the very bottom of consciousness, habits wear the cloth of Deleuzian desire, or Eros, especially considering that symbolic Eros tends to often embody its own alter-ego, carrying the “traits of a bad habit” (Dewey 1922/1988, p. 21) in the guise of some quite undesirables qualities of Trickster in itself. Habits “perpetuate themselves, by acting unremittingly upon the native stock of activities. They stimulate, inhibit, intensify, weaken, select, concentrate and organize the latter into its own ...

5 For Deleuze and the problematics of human subjectivity see Semetsky (2003).
likeness” (Dewey 1922/1988, p. 88). Similar to the powerful Deleuzian affects, habits are “active means, means that project themselves, energetic and dominating ways of acting” (Dewey 1922/1988, p. 22).

Habits are forces that are dynamic and projective, yet—because of being unconscious—they may manifest in human behaviors by means of “routine, unintelligent habit[s]” (Dewey 1922/1988, p. 55). The reorganization of habits then becomes a mode of inquiry so as to make a habit enter consciousness as perceived and “intelligently controlled” (Dewey 1922/1988, p. 23). Such a mode of organization effected by “cooperating with external materials and energies” (Dewey 1922/1988, p. 22) is potentially capable of reaching “our perception and thought” (Dewey 1922/1988, p. 26).

The transformation of an unconscious, and unintelligent, habit into the conscious and intelligent is possible by means of transversal communications via the movement along the aforementioned lines of flight. For Deleuze, any abstract machine would operate “within concrete assemblages” (Deleuze and Guattari 1987, p. 510) that may take a form of human behaviors and actions which embody habits.

The escape, then, from some old habit—and “any habit is a way or manner of action” (Dewey 1938/Hickman and Alexander 1998, 2, p. 163)—would necessarily bring forth changes and transformations by means of “new percepts and new affects” (Deleuze 1995, p.164) as some new modes of thinking, feeling and perceiving. The creative process, by definition, “reaches down into nature … it has breadth …to an indefinitely elastic extent. It stretches” (Dewey 1925/1958, 1). This stretch—Peirce’s Thirdness—expands the event-horizon and contributes to overcoming the limitations of perceptible reality by fine-tuning the perception per se.

Perception merges into inference because “[t]hat stretch constitutes inference” (Dewey 1925/1958, p. 1), and for pragmatists perception differs not in kind but only in degree from such form of human knowledge as cognition. As for Deleuze, let us repeat, he specifically emphasized the triadic relationship based on the inseparability between percepts, affects and concepts.

In the process of stretching beyond limits and inventing new concepts, philosophical thinking—as a mode of internal communication—acts in a self-organizing manner. It continuously produces “cutting and cross-cutting …[so the concept] has no reference: it is self-referential, it posits itself and its object at the same time it is created” (Deleuze 1988, p. 87). Among conflicting experiences situated in the midst of “critical junctures” (Deleuze 1998b, p. 223) embedded in a problematic situation, the enriched and perceptive thinking represents a potential “tendency to form a new [habit]” (Dewey 1925/1958, p. 281); as such it indeed “cuts across some old habit” (Dewey 1925/1958, p. 281).

Cuttings and cross-cuttings establish multiple becomings as “a new threshold, a new direction of zigzagging line, a new course for the border” (Deleuze 1995, p. 45) together with the “emergence of unexpected and unpredictable combinations” (Dewey 1925/1958, p. 281) functioning as ideas along many transversal lines. Ideas—as yet potential tendencies -- are capable of generating ever new ideas in accord with Peirce’s semiotics. Every new actualized idea becomes therefore none other than the created possible, potentially capable of a new meaning.

The peculiar “feeling of the direction and end of various lines of behavior [as]… the feeling of habits working below direct consciousness” (Dewey 1922/1988, p.26) leads eventually to the transformation of old habits and creation of new ones! The functioning of habits, when described in terms of Deleuze’s poststructuralist conceptualizations, takes place through a diagram, an abstract and informal, yet powerful and intensive, multiplicity which itself is positioned along the via media between discursive and non-discursive formations, yet “makes others see and speak” (Deleuze 1988, p. 34).

So Being is, as we said earlier, univocal indeed, but “because the diagrammatic multiplicity can be realized only and the differential of forces integrated only by taking diverging paths” (Deleuze 1988, p. 38) being necessarily becomes plurivocal when, due to the immanent difference, it happens to be diversified, articulated and enacted in its actual manifestations.

Deleuze has stressed the a-personal and collective nature of univocity by introducing his novel concept of the fourth person singular as the specific language expressing the singularity of the event. For Dewey too, the “language [is] considered as an experienced event” (Dewey 1925/1958, p. 173). The subject who (as if) speaks in the fourth person singular is not the a priori given intentional and speaking subject. As becoming, developing, and learning by means of multiple interactions embedded in experience, it is a collective subject. An event per se is as yet subjectless. As a multiplicity, it speaks (or thinks, or acts) “in the form of undetermined infinitive. …It is poetry itself. As it expresses in language all events in one, the infinitive expresses the event of language—language being a unique event which merges now with that which renders it possible” (Deleuze 1995, p. 185).

The Deleuzian subject thus goes beyond the “traditional ways of modern thinking (intentional consciousness of the modern subject) which are still … characteristic for educational research” (Lehmann-Rommel 2000, pp. 188-189). The perception of a poet allows one to prophetically envisage the difference (sic!) between “what may be and is not” (Dewey 1998b, p. 225) so that “the action and its consequence …become] joined in perception” (Dewey 1934/1980, p. 44).
Because “to perceive is to acknowledge unattained possibilities, …to refer the present to consequences” (Dewey 1925/1958, p. 182), expanded perception enables one to creatively— that is, “in an unprecedented response to conditions” (Dewey 1998b, p. 225)— re-organize the “change in a given direction” (Dewey 1998b, p. 225). Respectively—and in the autopoietic manner—“the created can continue the creation” (Garrison 1997, p. 79): creativity is what characterizes the process of actualization.

The Deleuzian outside as an ontological category is a virtual space that nevertheless “possesses a full reality by itself… it is on the basis of its reality that existence is produced” (Deleuze 1994a, p. 211). However,

in order for the virtual to become actual it must create its own terms of actualization. The difference between the virtual and the actual is what requires that the process of actualization be a creation. … The actualization of the virtual … presents a dynamic multiplicity …: … the multiplicity of organization. … Without the blueprint of order, the creative process of organization is always an art (Hardt 1993, p. 18).

In a pragmatic sense, what is defined as potentiality represents a departure from the classic Aristotelian telos that, unless thwarted by the interference of some unforeseeable accidents, asserts success in actualization and assigns to matter a status of being just a passive receptacle for essences. Sure enough, “potentialities must be thought of in terms of consequences of interactions with other things. Hence potentialities cannot be known till after the interactions have occurred” (Dewey 1998b, p. 222). But as embedded in an autopoietic process, matter itself is not inert—it is an active and intensive multiplicity capable of self-organization. Such a conceptualization would agree in principle with Deleuze’s philosophy, which has been considered by Hardt (1993) to be a strictly materialist ontology, that asserts being with respect to both corporeal and mental worlds and refutes the idealistic subordination of being exclusively to the material world, that asserts being with respect to both corporeal and mental worlds and refuses the idealistic subordination of being exclusively to the material world, that asserts being with respect to both corporeal and mental worlds and refuses the idealistic subordination of being exclusively to the material world, that asserts being with respect to both corporeal and mental worlds and refuses the idealistic subordination of being exclusively to the material world, that asserts being with respect to both corporeal and mental worlds and refuses the idealistic subordination of being exclusively to the material world, that asserts being with respect to both corporeal and mental worlds and refuses the idealistic subordination of being exclusively to the material world, that asserts being with respect to both corporeal and mental worlds and refuses the idealistic subordination of being exclusively to the material world, that asserts being with respect to both corporeal and mental worlds and refuses the idealistic subordination of being exclusively to the material world, that asserts being with respect to both corporeal and mental worlds and refuses the idealistic subordination of being exclusively to the material world, that asserts being with respect to both corporeal and mental worlds and refuses the idealistic subordination of being exclusively to the material world.

The cause in question, though, is “nothing outside of its effect, …it maintains with the effect an immanent relation which turns the product, the moment that it is produced, into something productive. …Sense [or meaning] is essentially produced. It is … always caused and derived” (Deleuze 1990, p. 95, brackets mine). Self-cause thus might be considered as “distributed in a field of action that includes the environment, values, tools, language, …other persons, and ‘the self as the tool of tools, the means in all use of means’” (Garrison 1999b, p. 303).

Such a feature of autopoiesis is both inscribed in the dynamics of self-organization and can be described, topologically, and using mathematical terms, as a chaotic attractor—a symbolic notation for Eros or desire—functioning as “a rudimentary precursor of final cause” (Juarrero 1999, p. 487), fractal by its very definition and therefore, in accord with Peirce’s Firstness, necessarily vague. The term attractor indicates the quality of the dynamic regime— or regime of signs, in Deleuze’s words— in which a system would potentially settle, for example some new, at present yet uncertain, habit the transition to which requires breaking of an old one, the latter at present already unstable.

VI. CONCLUSION

Autopoiesis describes the process of a continual renewal and self-organization pertaining to living and social systems so as to maintain the integrity of systems’ structures the latter arising as a result of multiple interactions—or, using Dewey’s stronger term, transactions—between many processes. The notion of transaction points to the occurrence of potential transformations and “modifications on both sides” (Lehmann-Rommel 2000, p. 197) and considers all human activities including “behaviors …[and] … knowings … as activities not of [man] alone … but as processes of the full situation of organism-environment” (Dewey in Biesta 1995, p. 279).

Human subjectivity is an activity produced in relations and as every production, it requires work to be done. It is that “work that forces us to frame a new question” (Deleuze 1995, p. 114), to enter a conversation, to continue an inquiry. As such, all transactions are embedded “in the organization of space and time prefigured in every course of a developing life-experience” (Dewey 1934/1980, p. 24) and extend beyond the spatio-temporal boundaries of the sole organism. The production of subjectivity is artistic because it is punctuated by creative becomings enabled by means of non-linear dynamics of experience that ensures the “suddenness of emergence” (Dewey 1934/1980, p. 75) of new structural forms. Each present, here-and-now, experience is itself a precondition for the emergence of “ever new, differently distributed ‘heres’ and ‘nows’” (Deleuze 1994a, p. xxi).

7 Juarrero (1999) points out that “students of complex dynamical systems have coined the neologism ‘heterarchy’ to allow interlevel causal relations to flow in both directions, part to whole (bottom-up) and whole to part (top-down)” (1999, p. 130).
The dynamical process comprises “the past [that] is carried into the present so as to expand and deepen the content of the latter” (Dewey 1934/1980, p. 24) but it also involves a sense of anticipation of future consequences. The creative “will is thus not something opposed to consequences or severed from them. It is a cause of consequences” (Dewey 1922/1988, p. 33). The newly created process-structure is in fact a decision made, an end which, by virtue of itself being means, opens new possibilities.

The Deleuzian line of flight “effectively folds into a spiral” (Deleuze 1993, p. 17), yet each fold represents a change described by a novel probability distribution of parts acting within the overall dynamics of the complex adaptive system. Dewey, quite in accord with the systems-theoretical thinking, has considered a part as always “already a part-of-a-whole. …conditioned by the contingent, although itself a condition of the full determination of the latter” (Dewey 1925/1958, p. 65).

Such dynamics was envisaged by Dewey as organic and vital, and not mechanical, organization recognizing—very much in agreement with the poststructuralist philosophy of Deleuze—“the empirical impact … of the mixture of universality and singularity” (Dewey 1925/1958, p. 48) in the relation of a whole to its parts. An autopoietic process, that includes in itself the Deleuzian transversal communication as a condition of its own vitality, is a creative becoming indeed because it brings forth “the tenor of existence, the intensification of life” (Deleuze and Guattari 1994, p. 74) and the previously unknown creative potential expressed by “the manner in which the existing being is filled with immanence” (Deleuze 1997, p. 137).

Phronesis as practical, experiential and intelligent method cannot but create the conditions of freedom specified as “efficiency in action, … capacity to change the course of action, to experience novelties. And again it signifies the power of desire and choice to be factors in events” (Dewey 1922/1988, p. 209; see also Garrison 1999a, pp. 304-305). Thus the mode of being as filled with immanence leads to becoming necessarily fulfilled due to one’s acquired capacity to act freely and independently precisely because of having learned to experience the connectedness and the reality of mutual interdependence in “the common world” (Dewey 1934/1980, p. 107).

The total experiential situation and not just a teacher’s instruction enables one’s studying from experience and “by experience” (Lehmann-Rommel 2000, p. 194): it cannot be otherwise because one always “has to invent new concepts for unknown lands” (Deleuze 1995, p. 103). It is a totality of the situation that enables learning as a construction of new knowledge by means of situated—also enriched with emotions and desires—cognition, that is by providing conditions “under which something new is produced” (Deleuze 1995, p. vii) as a result of a “shared deterritorialization” (Deleuze and Guattari, p. 293). Signs that are involved in such a communicative action embedded in experience are not the signs of pure reason but of phronesis indeed.

For Deleuze, life is a long experiential process requiring wisdom an a Spinozian sense, that is wisdom as practical and ethical, and overcoming in this process the limitations of narrow subject-centered knowledge. If the centrality of subject-position is questioned, then all learning and teaching are to be reconceptualized: learning is enabled by means of the common engagement in transversal communications ensuring potential transformations of habits at the teaching “end” as well. Without the relation in practice between “the sign and the corresponding apprenticeship” (Deleuze 2000, p. 92) all signs would remain meaningless.

New meanings are capable of self-expression only as eventual outcomes of the total process by virtue of the active self-cause—in the guise of Dewey’s interest, perhaps—and not as externally given in a forceful and often destructive manner. There should not be any special educative aim imposed from without but an immanent “movement in which desire is integrated with an object … completely” (Dewey 1932/Hickman and Alexander 1998, 2, p. 344). We remember that Deleuze, describing difference, stressed that it must be inherently differing, that is capable of making a difference. Perhaps students’ interest is such a difference, “the in-itself of difference” (Deleuze 1994a, p. 119), which—as based on desire—acts in an autocatalytic manner facilitating communication and reorganizing the learning process in the direction of its starting to make sense for students.

In this respect it is self-organization that functions as the process of growth and always already includes in itself, in accord with Dewey’s philosophy, an added capacity for growth. Expression is impossible without construction, and the educational growth is a function of both as inscribed in experience. The absence of any external aim inherent in the self-organizing dynamics functioning autopoietically also eliminates the hierarchical power structure specific to traditional schooling. The distribution of knowledge becomes a function of the shared communication rather than of a centrally administered curriculum. The body of knowledge is being held together not by some abstract and transcendental future end but by the immanent production of meanings, the latter including not only the sense and worth of chemistry, or literature, or history, or any other subject-matter, but first and foremost, the sense and worth of self.

The autonomy of the subject is therefore not given but contingent on the act of shared communication embedded within the experiential situation. In this respect, Deleuze’s philosophy tends toward the ethical position of care theorists in education (see Noddings 1984, 1998). The ethics of care emphasizes moral interdependence and “rejects the
notion of a truly autonomous moral agent. … As teachers, we are as dependent on our students as they are on us” (Noddings 1998, p. 196). Deleuze’s conceptualization of becoming asserts a self-becoming-autonomous, as if tending to its own ideal limit, as a continuous function—always already incorporating difference into itself—of a communicative, interactive and autopoietic process that may very well begin just in the small part of the aforementioned common world, a classroom.

REFERENCES


