

# Deleuze, Education and Becoming

# EDUCATIONAL FUTURES: RETHINKING THEORY AND PRACTICE

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## Scope

There are some signs that there are some very powerful forces at work reshaping advanced liberal societies – our normative orientations, our subjectivities and our institutions. These forces have been encapsulated in handy slogans such as “postmodernity”, “globalisation”, “reflexive modernisation”, “postindustrialisation”, “postmodernisation” and the like. Many of these developments focus on the importance of changes to the organisation of knowledge, the development of new forms of communication, and the centrality of knowledge institutions to an emerging info-capitalism. Often these epithets are conceptualised in metaphors such as the “information society”, “learning society” or the “knowledge economy” and often work as official policy metanarratives to both prescribe and describe futures. Today the traditional liberal ideal of education is undergoing radical change. In short, as the knowledge functions have become even more important economically, external pressures and forces have seriously impinged upon its structural protections and traditional freedoms. Increasingly, the emphasis in reforming educational institutions has fallen upon two main issues: the resourcing of research and teaching, with a demand from central government to reduce unit costs while accommodating further expansion of the system, on the one hand; and changes in the nature of governance and enhanced accountability, on the other. In the attempt to re-position and structurally adjust their national economies to take advantage of the main global trends, governments around the world have begun to reprioritise the importance of education, and especially higher education, as an “industry” of the future. There is an emerging understanding of the way in which education is now central to economic (post)modernization and the key to competing successfully within the global economy. This understanding has emerged from the shifts that are purportedly taking place in the production and consumption of knowledge which are impacting on traditional knowledge institutions like universities. This series maps the emergent field of educational futures. It will commission books on the futures of education in relation to the question of globalisation and knowledge economy. It seeks authors who can demonstrate their understanding of discourses of the knowledge and learning economies. It aspires to build a consistent approach to educational futures in terms of traditional methods, including scenario planning and foresight, as well as imaginative narratives, and it will examine examples of futures research in education, pedagogical experiments, new utopian thinking, and educational policy futures with a strong accent on actual policies and examples.

# Deleuze, Education and Becoming

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A down the mottled slopes of night  
With smile that lit the dark,  
Ran a little lane of light  
That none but I could mark

John Dewey, "My Road"

To my parents.



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## FOREWORD

NOEL GOUGH, LA TROBE UNIVERSITY, AUSTRALIA

Besides rank-and-file Introductions there are the upper echelons such as Forewords and Prefaces, nor are even ordinary Introductions all alike, for an Introduction to one's own book is one thing, and that to somebody else's quite another (Stanislaw Lem, 1985, pp. 1-2).

I have quoted Stanislaw Lem here because he reminds us that a Foreword is a particular species of a minor literary genus/genre (the Introduction) and that it is a text tacitly privileged by its status as a preamble to, and/or endorsement of, somebody else's textual labor. It is partly because I want to disavow this privilege that I have borrowed Mark Halsey's (2006) tactic of using the strikethrough – you are reading a ~~Foreword~~, not a Foreword – to signal that even this humble text exceeds any preconceived meanings associated with the term. This tactic borrows in turn from Jacques Derrida's approach to reading deconstructed signifiers as if their meanings were clear and undeconstructable, but with the understanding that this is only a strategy, because all words are always already *sous rature* (under erasure). Or, to put it in terms that you are likely to recognize if you are familiar with Gilles Deleuze's writings (and will certainly recognize after you have read this book), the omnipresence of erasure and cuts works as a machine of deterritorialization.

As you might have gathered by now, I am deeply suspicious of Forewords. In their conventional form they introduce the text that follows and/or the author – much like a chair of a conference plenary session introduces a speaker – but they rarely add any substantial value to the book's subject matter. From a publisher's perspective, a Foreword's primary purpose is to boost book sales – a means of validating the book's existence and of introducing someone who might not be well-known via an ~~expert~~ or someone that the book's presumed readership will recognize more readily than the actual author. If representatives of Sense Publishers had invited me to write a Foreword to this book, I would have advised them that they could be wrong on both counts.

But I am writing this ~~Foreword~~ because the author, Inna Semetsky, asked me to do so, and I can assure readers that I did not accept her request just because I was too polite or too vain to refuse (I can unequivocally rule out politeness, but I cannot rule out vanity: writing a Foreword keeps the writer's name in circulation, which is especially useful if there has been a significant time lag between his/her previous and forthcoming publications – which in my case is closer to the truth than I would prefer).

In fact, I did seriously (albeit briefly) consider declining Inna's invitation on three grounds. Firstly, as will become obvious to readers of *Deleuze, Education, and Becoming*, Inna most certainly does not need my patronage (or anyone else's)

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to validate or legitimate her fine scholarship. Secondly, I knew that any reader looking for a succinct and erudite summary judgment of the virtues and significance of this text would already have access to three of these in the prepublication endorsements provided by Ron Bogue, Jim Garrison, and Nel Noddings; I wholeheartedly agree with their judgments, and thus feared that anything I could add might be seen to be redundant (or, worse, that I might be seen as escalating a bidding war using the currency of superlatives to determine the value of Inna's work in the market of academic esteem). Thirdly, it seemed to me that a Foreword could be seen as being ~~incommensurate~~ with Deleuzian thought. One of the characteristics of a rhizome – arguably the best-known of Deleuze and Guattari's conceptual creations – is that it has no beginnings or ends but is wholly constituted by middles and muddles. Beginnings and ends, introductions and conclusions, forewords and afterwords, imply a linear movement, whereas working in the middle of things is about coming and going rather than starting and finishing.

Eventually, enlightened self-interest led me to accept Inna's invitation, because I was confident that writing a ~~Foreword~~ could only be a generative learning experience. I share Laurel Richardson's (2001) conviction that:

*Writing is a method of discovery*, a way of finding out about yourself and your world. When we view writing as a *method*, we experience 'language-in-use,' how we 'word the world' into existence... And then we 'reword' the world, erase the computer screen, check the thesaurus, move a paragraph, again and again. This 'worded world' never accurately, precisely, completely captures the studied world, yet we persist in trying. Writing as a method of inquiry honors and encourages the trying, recognizing it as emblematic of the significance of language (p. 35; author's emphasis).

Thus, like Richardson (2001), "I write because I want to find something out. I write in order to learn something that I did not know before I wrote it" (p. 35). I suspect that Inna writes like that too, because her essays invariably invoke for me a powerful sense of being in the presence of *emergence* – of becoming conscious of new conceptualizations and configurations that offer new pathways for thought and action. In the remainder of this ~~Foreword~~ I will attempt to share something of what I have learned by writing it.

How does one write a ~~Foreword~~? When puzzling over a course of action, I often follow Alasdair MacIntyre's (1984) example: "I can only answer the question 'What am I to do?' if I can answer the prior question 'Of what story or stories do I find myself a part?' ... Mythology, in its original sense, is at the heart of things" (p. 216). Less than six years ago, the name "Inna Semetsky" was unknown to me, so how have we now found ourselves in a shared story, a shared mythology?

Inna and I began to correspond as a direct result of François Tochon copying an email meant for me alone to 13 other people. François is Professor of Education at the University of Wisconsin-Madison and one of the driving forces of the Semiotics Special Interest Group (SIG) of the American Educational Research Association (AERA). Early in November 2000, François and I discussed – very tentatively – the possibility of me editing a special issue of the *International*

*Journal of Applied Semiotics* on the theme of “Images, Maps and Semiotics”, which had been the focus of two linked symposia at the 2000 Meeting of AERA in which Inna and I had each presented papers (although we were in different symposia and did not attend each other’s sessions due to conflicting commitments). François inadvertently copied to all presenters in these symposia a message intended only to inform me of their email addresses. And so (*merci beaucoup Francois!*) I received my first email from Inna – a rhizomatic shoot popping up in my inbox:

I got an email from François Tochon advising to get in touch with you. I am not quite sure though what is it you are looking for... I used to live and work in Melbourne (12 years) and try to visit every year for various reasons, usually if it coincides with a good conference. Last time it was August [2000], INPE [International Network of Philosophers of Education] in Sydney, excellent meeting. If you plan a conference in 2001 on education/philosophy/semiotics, would appreciate if you kindly let me know. I am at Teachers College Columbia [University], New York, finishing a PhD dissertation in philosophy of education under Nel Noddings.

Nearly a year passed before I received another email from Inna. In October 2001 she wrote:

We spoke through emails some time last year with regard to the Semiotics SIG at AERA... I would like to ask you a question if I may. I defended my PhD at Columbia University ... in August. ... Anyway with events in New York I feel like going back, and I wonder if there exist any faculty or research positions at Deakin University [where I was then director of a research centre].

Our correspondence subsequently became more frequent, and during her next visit to Melbourne I invited Inna to present a research seminar based on her award-winning essay, “The Adventures of a Postmodern Fool”<sup>1</sup>, which was very well received by all who attended. I was sufficiently impressed by Inna’s innovative applications of poststructuralist philosophy in general – and of Deleuze’s approaches in particular – to share her work with a wider network of poststructuralist scholars who I hold in high esteem. Thus, for example, I sent her seminar paper to Elizabeth [Bettie] Adams St. Pierre, a friend and colleague whose work on Deleuze and education I regard as second to none (a view that Inna clearly shares; see Chapter 5: *Becoming-nomad* of this volume). Bettie responded:

Hi, Inna. Noel Gough put me on to your work, in particular, to your paper, ‘The Adventures of a Postmodern Fool’. Just wanted to let you know that I think it’s great. You use Deleuze marvellously. Hope we can hook up sometime at a conference! Best regards, Bettie.

And so our rhizomatic interconnections proliferated productively through reciprocal invitations to one another to participate or collaborate in each other’s scholarly activities and collegial networks by, for example, publishing in special

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issues of journals that one or the other of us was guest editing, serving on doctoral committees, organising symposia at conferences, etc.

But let me pause here (in the middle/muddle) to reflect briefly on the textual/rhetorical strategies I have deployed in the last few paragraphs. I anticipate that some readers will fear that, despite my initial debunking of the idea of Forewords, I have now enacted some of their most stereotypical attributes, such as shameless name-dropping, and reminiscing about how the author of The Foreword knows (or knows of) the author of The Book. I also suspect that if any academically straight-laced philosophers are reading this they will dismiss my recounting of personal anecdotes about how Inna and I met as “mere” gossip.

I am more than happy to defend gossip and, thus, to defend the name-dropping and personal reminiscences that are among its characteristic tropes. I have long been impressed by Madeleine Grumet’s (1983) argument that gossip is an alternative discourse system that has generative possibilities for educational inquiry. Sharing its etymology with the Middle English *godsybbe* (godparent), the word “gossip” came to mean women friends invited to be present at a birth and, later, to refer to the kind of news and anecdotes they exchanged on such occasions. This older sense of gossip, the kind of talk that accompanied women’s work as they ushered in new life, is characterised by intimacy, candor and trust – a far cry from contemporary associations of gossip with talk that is trivial, idle, snide or parochial. Grumet’s understanding of gossip clearly shares some of the qualities that Michel Foucault (1980) attributes to genealogy as a practice that focuses on “local, discontinuous, disqualified, illegitimate knowledges” (p. 83). I also see gossip (or at least some examples of it) as an assemblage of speech acts that produce what Alicia Youngblood Jackson (2003) terms “rhizovocality”, a concept that signifies voice as “excessive and transgressive yet interconnected” (p. 693). Jackson describes rhizovocality as follows:

*Rhizo*, a prefix I borrow from Deleuze and Guattari’s (1987) image of the rhizome, captures the heterogeneity of vocality in a spatial figuration, accentuating its connection to other things through its very diversity. *Vocality*, in music theory, emphasizes the performative dimension of voice, its expressive power, its tensions of dissonant counterpoint, and its variations on thematic connections; it challenges our attention and demands deep concentration if we are to hear its nuances. *Rhizovocality*, as my combined, invented signifier, offers a vision of performative utterances that consist of unfolding and interrupting threads (p. 707).

I see the interfolded qualities of gossip, genealogy and rhizovocality in the “variations on thematic connections” that Inna produces in this text. The liturgy of *becoming* that recurs and reverberates throughout recalls for me Grumet’s (1983) sense of gossip as “the dark discourse of the mystery of birth” which “brings the private truth, the dark secret, into the forms of our public world” (p. 127), bringing new life to (for example) the conceptual personae of Charles Sanders Peirce and John Dewey in Inna’s book. Jackson’s reference to music theory in explaining the etymology of “rhizovocality” is also pertinent to *Deleuze, Education, and*

*Becoming* because Inna can be understood to be both composing and performing an “orchestration” of Deleuze’s philosophy. Her approach reminds me of Claude Debussy’s orchestrations of Erik Satie’s *Gymnopédies*. Despite their seemingly gentle ambience, Satie’s piano pieces are complex and irregular, with their shifts of rhythms and keys deliberately flouting many conventions of classical and contemporary music. Inspired by contemporary impressionist painters, Debussy enhanced their beauty and elegance by expanding their tonal palette – a strategy not dissimilar to Inna’s expansion of Deleuze’s thought into frames drawn from American pragmatism so as to produce a “harmonious dissonance” among them.

From my standpoint as an environmental educator, one of the great attractions of Deleuze and Guattari’s philosophy is that they make no arbitrary distinctions between culture and nature: humans are coextensive with all other objects and subjects of a complex, dynamic, autopoietic system. It is thus perhaps worth noting that the ways in which Inna’s and my stories have become intertwined provides a very simple (some might even see it as trivial) illustration of the new convergences between what were once seen as disparate disciplines, such as the philosophies of literature, art, and science. For example, the unpredictable (yet deterministic) amplification of low-energy fluctuations, popularly known as the “butterfly effect” (a butterfly flapping its wings in Brazil may set off a tornado in Texas), is now an explanatory commonplace in thinking about complex systems, as in climatology and weather forecasting. This principle is also a commonplace of fictional narrative and, in this respect, theories of complex systems correspond with the worldview of Jane Austen, Charles Dickens, William Shakespeare and every other novelist and dramatist for whom, as David Porush (1991) puts it, “small accidents send the hearts of mortals and their fates wheeling out of their appointed Newtonian orbits into grand twists of fate and destiny” (p. 381).

Although writing a ~~Foreword~~ for Inna’s book is hardly a “grand twist of fate”, it is nonetheless a precious learning experience determined by the unpredictable consequences of amplifying an effect of a “small accident”. Such a view of human experience cannot be accommodated by the simplifying discourses of modernist science – Newton’s “world machine” – and nor can the butterfly effect in global climatic phenomena. But both can be understood in terms of Deleuze’s “machinic assemblages” – organic, self-organising, desiring, and always *becoming* machines (see especially Chapter 1: *Becoming-other* and Chapter 3: *Becoming-language*, of this volume). An irony of this new convergence of literature and science is that Newton’s reductionist “world machine” is still represented as a common sense view of reality in many educational discourses (you need look no further than a junior secondary school science textbook), yet the common and sensible (that is, irreducibly complex and unpredictable) events of everyday life and the global biosphere *cannot* be represented (without severe distortion) by Newtonian mechanics. Newton’s world, in which reactions are reversible and interactions reduced to a few simple algorithms, now looks less like “science” than a crude science fiction – a minimalist abstraction from a thought experiment not unlike Edwin Abbott’s nineteenth century novel *Flatland*. Indeed, Newtonian mechanics is at its most plausible in such fictional worlds – for example, the formula

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determining force by reference to mass and acceleration  $F=ma$  (cf. Chapter 4: *Becoming-rhizome*) is best demonstrated in frictionless space, and where on earth – or anywhere – does one find *that*? By contrast, the worlds described by Deleuzian machinic assemblages and complexity theorising are recognizably sensible – worlds in which “nature” and “reality” are, as it were, speaking the same language as the great mimetic artists.

It seems appropriate to conclude a ~~Foreword~~ on a perverse note. In a book-length manuscript of over 130 pages and 70,000 words I expect that most readers will find some passages with which they will want to take issue with the author or even to disagree with her. Although there are many parts of Inna’s text that I still puzzle over, I see these as incitements and provocations to further inquiry, not contrary positions, but there is one statement with which I firmly disagree and, because it is on page 1 of Chapter 1: *Becoming-other*, I cannot ignore it here. Inna writes: “The complexity of Deleuze’s intellectual practice is beyond imagination. The language of expression in Deleuze’s thought, as well as in Deleuze and Guattari’s collaborative works, is even more complex”. Leaving aside the difficulty of interpreting the second sentence in the light of the first (what can possibly be “even more complex” than “complexity... beyond imagination?”), I would argue that Inna Semetsky demonstrates repeatedly and convincingly throughout this book that Deleuze’s intellectual practice is most accessible to those who put their imaginations to work – that imagination is precisely what we need to put Deleuze and Guattari’s geophilosophy into practice in education. Their goal is to create concepts through which *we* – philosophers and other practitioners in education – can imagine new pathways for thought and action. As Todd May (2003) writes:

These concepts do not ask of us our epistemic consent; indeed they ask nothing of us. Rather, they are offerings, offerings of ways to think, and ultimately to act, in a world that oppresses us with its identities. If they work – and for Deleuze, the ultimate criterion for the success of a concept is that it works – it will not be because we believe in them but because they move us in the direction of possibilities that had before been beyond our ken (p. 151).

So I do not believe Inna Semetsky when she writes that Deleuze’s thought is beyond imagination because, over and over again in this wonder-full book, she supplements Deleuze’s offerings with gifts of her own, which together move us towards new possibilities for imaginative thought and ethical action.

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## INTRODUCTION

In 1899 an American scholar was invited to read a series of lectures in Europe. This event, having coincided with the beginning of the twentieth century, marked an important, even turning, point in the history of American philosophy (Boisvert, 1998) leading to the recognition of pragmatism beyond the borders of the former colony. A century later, in the new millennium, the pendulum swings. My book purposes to cross borders in the opposite direction so as to introduce the as yet underrated name of Gilles Deleuze (1925-1995), the poststructuralist French philosopher, to educational philosophers in the English-speaking countries by establishing his position as pragmatic in the best American tradition. The figure of John Dewey will be used as a Deleuzean counterpart, my book attempting neither to compare nor contrast the two philosophers, nor to delimit its focus by having chosen to pick up some of the postmodern trends lurking in the foreground of the modern epoch. Rather the whole project is based on the idea of juxtaposing – following Bernstein’s (1995) model – two thought processes so as to be able to construct a common, shared plane between the two.

Richard Bernstein (1971, 1983, 1995) addressed the intersections of continental and pragmatic philosophical thought both from substantive and methodological perspectives. He specifically acknowledged the importance and value, for both traditions, of the so-called experimental knowing that he considered to be essentially a practical art leading to results that are cumulative and not defined strictly by adherence to a preconceived theoretical judgment. My book, which started just as a thought-experiment and has culminated in the following chapters hereafter, is based on an approach advocated by Bernstein and described as *the new constellation* (1995). The *constellation* metaphor, rather than reducing the thoughts of both Dewey and Deleuze to a single common denominator, helps me in addressing instead the seemingly “shared assumptions, commitments and insights” (Bernstein, 1983, p. 2) in their respective philosophies.

The style used by this book is derived from the cartographic method that complements a narrow path of strict analytical reasoning with a broader format of diverse and spacious forms of mapping, employed in contemporary cultural studies. The very spatiality of a geographical metaphor, incidentally, is prominent in the process-oriented metaphysics of both Dewey (Hickman, 1998; Rescher, 1996, 1998) and Deleuze (Deleuze, 1990; Deleuze and Guattari, 1994). I should mention in passing that Felix Guattari, who was not only a leading theoretician but also a social activist and a practising psychoanalyst in an experimental clinic in France, has collaborated with Deleuze on several works including their latest project, *What is Philosophy?*. Both theoretically and practically, such a collaboration represents a new approach to knowledge as shared and situated, and brings philosophy “proper” into closer contact with sociocultural issues and practical concerns.

The book fulfils the following important objectives: It revives the relevance of pragmatism across time, space, and cultures and establishes Deleuze’s philosophy

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as pragmatic as regards knowledge economy; It enriches contemporary education with the pedagogy of the concept grounded in Deleuze's unorthodox epistemology and ethics; It develops a dynamic model of reasoning informed by Deleuze and Guattari's a-signifying semiotics; It considers the role of experience and culture in knowledge structures and suggests a theory of the subject as regards the dynamical process of identity formation in education.

By introducing several novel concepts in their philosophical, ethical, social and aesthetic dimensions as they arise in Deleuze's works and his collaborative projects with Guattari, I will first establish Deleuze's philosophical position as pragmatic and compatible with the rich legacy left by American pragmatists John Dewey and Charles Sanders Peirce. I will address Dewey's volume of work and read a number of excerpts through the lens of Deleuzian conceptualizations. If in this process Deweyan thought itself undergoes changes and reorganization, it only confirms, as Jim Garrison (1995) has indicated, that Dewey himself, in accord with his philosophical project, would welcome the reconstruction of his own ideas so as "to better respond to the vicissitudes of new times and contexts" (Garrison, 1995, p. 1). Finally, following the emergent interconnections between the two thinkers, I will explore Deleuze's philosophy for the purpose of considering its potential implications for education. The latter will address both theoretical and practical questions, drawing from available educational research, as well as critically examining such concepts as abductive inference, complexity of meaning-making, and specialization. I will conclude by affirming Deleuze's place in contemporary Deweyan scholarship and, as a follow-up to this premise, inviting discussion within the community of philosophers of education. Considering the influence of Deleuze's body of work in other areas, such as cultural studies or social and political philosophy, bringing his concepts into educational discourse fills the as yet largely unexplored gap in the field. This book intends to close this gap.

The presentation in a mode of mapping does not assume this map's representing the proverbial territory as given in the strict sense. Deleuze used the French word *tracer* to indicate the subtlety of what it means to draw a map. The verb *to draw*, for Deleuze, means to create and not to copy precisely because, as his translator Brian Massumi points out, "what is drawn ... does not preexist the act of drawing. The French word *tracer* captures it better: it has all the graphic connotations of "to draw" in English but can also mean to blaze a trail or open a road" (Massumi [Deleuze and Guattari], 1987, p. xvi).

The structure of the book is multi-folded. At the outset, by introducing several Deleuzian concepts, and specifically his concept of *becoming*, I address the problematics of language and individuation, or production of subjectivity, which, as Deleuze posited, is to be considered collective and populated by both the psychic and the social dimensions. Critically examining selected excerpts from the works by such figures as Charles Taylor (1991) and Bellah, Madsen, Sullivan, Swidler and Tipton (1996), I situate Deleuze's conceptualizations in the larger context of social philosophy. The poststructuralist reading problematizes such notions as individualism, freedom, and choice by addressing the ambivalence of meanings derived from possible interpretations of each concept.

I specifically focus on the dynamical character implicit in each of the aforementioned concepts; for this purpose, and acknowledging in passing the scope of the Darwinian influence on both Dewey's and Deleuze's thinking, I introduce some notions derived from complexity theory that would have assisted in clarifying several of Deleuze's novel concepts. The *nomadic*, that is, experiential and described by Deleuze and Guattari (1994) as movable and moving, thought which envelops within itself the ethical, artistic and affective dimensions is one example, in this respect, of many Deleuzian neologisms.

Deleuze's philosophy was best addressed in his two works of the late 60s, *Difference and Repetition* and *The Logic of Sense*, and then defined and reconstructed two decades later in *What is Philosophy?*, co-authored with Guattari. The latter project gives philosophy, one task of which is the creation and invention of new concepts, an instrumental, tool-like, pragmatic flavor, and invites a philosopher, whose intellectual practice therefore becomes one of a constructive pragmatist, to think the unthinkable. Deleuze identified the realm of unthinkable as the problem of the Outside which represents inquiry that is not solely based on background knowledge but is future-oriented in terms of creating present conditions under which new concepts – “for unknown lands” (Deleuze, 1995, p. 103) – will be produced.

This book would not have fulfilled its purpose if not for the pragmatist legacy of Charles Sanders Peirce and John Dewey. Therefore, and despite the fact that Deleuze himself was only partially explicit on this subject and appropriated Peirce's thinking mostly with regard to his own work on images and cinema, a recourse to Peirce's triadic logic, or semiotics, is imperative. I intend to discuss the relevance of Peirce's philosophy and his categories of Firstness, Secondness and Thirdness as they pertain to Deleuze's philosophical thinking. I further examine some works by John Dewey, and not only his educational classic *Democracy and Education*, but several others including *Experience and Nature*, *How We Think* and *Art as Experience*. By means of positioning them alongside Deleuze's conceptual space, I address the contemporary relevance and significance, as well as plurality of meanings embedded in Dewey's naturalistic epistemology and aesthetics.

It should be noted that the meaning of the word *naturalistic* in this context may be ambiguous. For Dewey, however, it is never reduced just to physicalism, but is based on the belief that a philosophical analysis of any entity proceeds without assuming a reference to some transcendental or supernatural realms. Dewey explicitly rejected the separation and isolation of the “envirning conditions from the whole of nature. ... [N]ature signifies nothing less that the whole complex of the results of the interaction of man, with his memories and hopes, understanding and desire, with that world to which one-sided philosophy confines ‘nature’” (Dewey, 1925/1980, p. 152).

Following up Dewey's anti-dualisms, and by means of introducing the powerful concept, borrowed by Deleuze from biology, of the rhizome as a new – non-foundational – image of thought versus the dogmatic Cartesian image, my intent is to demonstrate the affinity between Dewey's and Deleuze's approaches to logic as a dynamic inquiry. Metaphorically, the rhizome describes an open system of

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multiple interactions and connections on various disparate planes, with a view that there isn't a single crossing point but rather a multiplicity of "transversal communications between different lines" (Deleuze and Guattari, 1987, p. 11). This metaphor, by being used with regard to the question of sources of knowledge in the context of philosophy of education, permits a shift of focus from the static body of knowledge to the dynamic process of knowing, with the latter's having far-reaching implications for education as a developing and generative practice.

The cartographic approach as a method of mapping the conceptual explorations of both philosophers onto each other's territory also leads us to entertain the possibility that "Dewey [may have been long] waiting at the end of the road which ... Foucault and Deleuze are currently travelling" (Rorty, 1982, p. xviii).<sup>2</sup> The road taken by Deleuze is marked by numerous conceptual explorations which, when conducted in a spirit of empirical inquiry, lead to the real, not merely metaphorical, production of effects. This complex epistemology, affecting the process of subjectivation, is inseparable from ethics in terms of anticipated consequences and values "that are yet to come" (Deleuze and Guattari, 1987, p. 5), and as such may be considered to agree in principle with "Dewey's pragmatic ethics [as] consequentialist" (Noddings, 1998, p. 146).

The anti-dualisms implicit in Deleuze and Guattari's philosophy are based on a complex relationship conceptualized by Deleuze as the inside of the outside, or the fold, which was first addressed by Deleuze (1988a) with regard to Foucault's thought and then explored, developed and elaborated in his later work on Leibniz (Deleuze, 1993). The concept of fold contributes to the blurring of the boundaries between epistemology and psychology, and subjectivity is able to express itself through the emergence of a new form of content by way of interaction, or the double transformation. Its affinity with the following passage that belongs to John Dewey is close:

Everything depends upon the way in which material is used when it operates as a medium .... It takes environing and resisting objects as well as internal emotion and impulsion to constitute an expression. ... [T]he expression of the self in and through the medium ... is ... a prolonged interaction of something issuing from the self with objective conditions, a process in which *both* ... acquire a form and order they did not at first possess. ... Only by progressive organization of 'inner' and 'outer' material in organic connection with each other can anything be produced that is not a learned document or an illustration of something familiar (Dewey, 1934/1980, pp. 63-65, 75).

Each concept, for Deleuze, "should express an event rather than essence" (Deleuze 1995, 25) and exists in a triadic relationship with percept and affect: "you need all three to *get things moving*" (Deleuze, 1995, p. 165; Deleuze's italics). The dynamic moving forces, "whether perceived or presented in imagination" (Dewey 1916/1924, pp. 152-153), breathe life into philosophy, and Deleuze's joy, multiple becomings, and affirmation of life are features that seem to accord with the Deweyan-based naturalization of education:

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 transformational pragmatics of Deleuze and Guattari begin in the middle and muddle of life *per se*, yet the quality of *folded* experience includes multiplicities of both material and immaterial signs, or pure events, giving rise to meaning, producing truth – without a capital “T” – contingent on the context of local situations. Experience is rendered meaningful not by grounding empirical particulars in abstract universals but by experimentation, that is, by treating any concept:

as 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 differentiate them (Deleuze, 1994a, pp. xx-xxi).

Finally, and following Charles Sanders Peirce’s pragmatic maxim, my intent is to address Deleuze’s philosophy for the specific purpose of considering its potential practical effects and educational implications so as, ultimately, to make Deleuze and Guattari’s voice be heard in connection with what has recently been called the new scholarship on Dewey (Garrison, 1995). Contemporary philosophers of education are open to the assumption that “poststructuralism – its genealogy, transmission, development and application – has ongoing significance for educational theory” (Peters, 1998). Deleuze’s rhizomatic method – summarized in the field of cultural studies as “a strategy of drawing lines of connections” (Grossberg, 1997, p. 84) – has attracted the attention of feminist philosophers of education: Leach and Boler (1998) have invited us to explore Deleuze’s work for the purpose of examining the “potential of thinking differently with respect to the public and current scholarly debates around educational theory and practice” (Leach and Boler, 1998, p. 150). Deleuze’s theory and his idea of the nomadic inquiry have been put into practice in the area of qualitative methods in educational research (St. Pierre, 1997a, 1997b).

Recognizing a somewhat narrow view on education, Deleuze also addressed intuition as method and maintained that “the infinite movement ... frees [thought] from truth as supposed paradigm and reconquers an immanent power of creation” (Deleuze and Guattari, 1994, p. 139). With this in view, I devote a chapter to revisiting Nel Noddings’ remarkable work on intuition in education (Noddings and Shore, 1984) and also address Peirce’s category of abduction, which has recently been looked upon from the Deweyan perspective (Prawat, 1999). I critically examine multiple possible interpretations and applications of this concept by connecting it with the paradox of “the logic of sense” (Deleuze, 1990) and the emergence of meanings at a new level of complexity.

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Last but not least, my attention turns to Noddings' (1993a, 1998) perspective on specialization as production of breadth. I connect the concept of the breadth of the school curriculum with the Deleuzian notion of an open-ended, *smooth* space in which a field of choices and "polyvocality of directions" (Deleuze and Guattari, 1987, p. 382) may emerge as "a function of the place" (Casey, 1997, p. 303). Providing we explore the practical effects and educational implications of Deleuze's philosophy in full Deleuze and Guattari's voice has the potential to be heard in connection with what Jim Garrison (1995) has identified as *the new scholarship on Dewey* that has recently "emerged among academic philosophers" (Garrison, 1995, p. 1). Dewey's educational philosophy, from the perspective of such a new scholarship, comprises communication, aesthetics, and creativity among others aspects. As applied to contemporary educational context, those aspects are re-examined and even reconstructed by scholars thereby leading to the strong possibility that "the implications of Dewey's philosophy of education have not yet been exhausted" (Garrison, 1995, p. 6).

If Deweyan educational philosophy still provides ample scope for further explorations, the application of Deleuze's philosophical position to education has been barely proposed. Yet, while Deleuze's theoretical explorations of education *per se* were not explicit, he has described the experimental course he taught comparing it with the research conducted in a laboratory (Deleuze, 1995):

Giving courses has been a major part of my life, in which I've been passionately involved. ... It's like a research laboratory: you give courses on what you are investigating, not on what you know. It takes a lot of preparatory work to get a few minutes of inspiration. ... [W]e rejected the principle of 'building up knowledge' progressively: ... everyone took what they needed or wanted, what they could use (Deleuze, 1995, p. 139).

As Dewey would have put it, there seems to emerge the warranted assertibility of continuity between his thought and that of Deleuze. The continuity is made possible, first, due to both Dewey and Deleuze's adherence to the experiential and experimental, quasi-empirical inquiry in philosophy which "procures for philosophic reflection something of that cooperative tendency toward consensus" (Dewey, 1925/1958, p. 30). Second, I believe that the interaction between them, albeit having never happened physically, is animated by the presence of an organizing vital force which is "free, moving and operative ... [and makes one] ... a living spirit. He lives in his works and his works do follow him. ... Spirit informs" (Dewey, 1925/1958, p. 294).

Educating our children in the *inform*-ation age, let us not forget those words: *Spirit informs*.



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### **BECOMING-OTHER**

At first sight the two thoughts of the French poststructuralist, Gilles Deleuze, and American philosopher, John Dewey, might appear incompatible. The great divide between the American and continental philosophies is a common notion. Yet the pragmatist movement stands out and, as this book intends to demonstrate, connects two positions seemingly separated by time, place and culture. In order to explore the continuity and the possibility of constructing the common conceptual space shared by both figures, I will first examine the problematics of human subjectivity, alternatively called self-formation, subjectivation (Deleuze, 1988a), or subject-formation, as addressed and developed by Deleuze. For the purpose of developing the concept, this chapter addresses also the notion of freedom of choice noticing the ambiguity of freedom and specifically focusing on the concept of critical freedom – versus either negative or positive liberty – in Deleuze’s philosophy.

By drawing initial parallels with selected excerpts from Dewey’s works, I am going to conclude this chapter by opening the space for a further imaginary dialogue between those two philosophers so as to consider possibilities for applying Deleuze’s philosophy to education in the context of contemporary debates and in a manner continuous with the Deweyan legacy. This dialogue is under construction and, as such, is meant to be continued in the subsequent chapters, and it is my intention that it will not stop there either.

Michel Foucault remarked that the 20th century would one day be known as Deleuzian. The complexity of Deleuze’s intellectual practice is beyond imagination. The language of expression in Deleuze’s thought, as well as in Deleuze and Guattari’s collaborative works, is even more complex. As has been noted by the feminist philosophers of education, Leach and Boler (1998), who have been undertaking a pioneering analysis of Deleuze and Guattari’s work for the concrete pedagogical purpose of teaching history and literature, their “projects ... are huge” (Leach and Boler, 1998, p. 152). Deleuze’s philosophy is systematic in a manner, for example, that “Foucault does not attempt” (Leach and Boler, 1998, p. 150). By challenging the purely rationalist tradition in philosophy, Deleuze maintained an optimistic and joyful relationship with the discipline making it a site of numerous conceptual explorations and real production of effects at the practical level. Calling himself an “empiricist, that is, a pluralist” (Deleuze, 1987, p. vii) and continuing Foucault’s initiative of cultural critique, Deleuze has been employing visual metaphors and cartographies that aim at the mapping of the new directions for praxis thereby establishing a philosophical position that may be considered pragmatic in the best American tradition (see Wolfe, 1998).

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The states of things, for Deleuze, are what he, after Bergson, called qualitative multiplicities, which are “neither unities nor totalities” (Deleuze, 1987, p. vii) but the relational entities constituted by multiple lines or dimensions irreducible to each other. It is the set of relations *per se* that counts, and not the terms that are related to each other by virtue of the relations that, as such, do maintain an ontological priority. Subjectivation is the *relation* to oneself, and therefore it is also a multiplicity. Because, by virtue of the relations, every multiplicity “grows from the middle” (Deleuze, 1987, p. viii), it is the *milieu* itself that constitutes every multiplicity; by implication, a multiplicity would be irreducible to a rule or a code, the latter being described in either epistemological or moral terms.

Yet, empiricism – even in the absence of any code represented by the dualistic binary logic of *excluded* middle – is, as Deleuze says, “fundamentally linked to a logic – a logic of multiplicities” (Deleuze, 1987, p. viii). Things begin precisely in the middle in accord with “a theory and practice of relations, of the AND” (Deleuze, 1987, p. 15), constituting the logic of the *included* middle. The conjunction *and* is what becomes a principal characteristic of the logic of signs, or semiotics, making it operational in the sense of a “both-and” relationship that in fact makes any entity a multiplicity, “a being-multiple” (Deleuze, 1987, p. viii). Such logic, as Deleuze notices, remains however “underground or marginal in relation to the great classifications” (Deleuze, 1987, p. 15), their being either classical empiricism or rationalism that are both based on the strict binary delineation of “either-or”.

Positing the equivalence of empiricism and pluralism, Deleuze shares his thinking with American process-philosophy, exemplified in such figures as Alfred North Whitehead, William James and especially Charles Sanders Peirce. The definition of empiricism, as advanced by Whitehead, rests on two characteristics: first, that the abstract must be explained but itself does not explain, and second, that the philosophical aim is not to go back to the eternal but rather discover conditions for the production of something new, to be creative. For Deleuze, this means that the creation of new concepts is unavoidable: concepts are to be created, epistemologically, and states of affairs are to be evaluated, ethically, in order to extract from them new, non-pre-existent concepts.

But – and here is the question usually brought forth by pragmatists – how efficacious would those new concepts be? The answer accords with the pragmatic character of the whole of Deleuzian thought, that is, it does not make sense to attempt to generalize the politics of Deleuze’s philosophy, but rather posit a question, as Hardt (1993) does in his study on Deleuze: “What can Deleuze’s thought afford us? What can we make of Deleuze? In other words, what are the useful tools we find in his philosophy for furthering our own political endeavors?” (Hardt, 1993, p. 119) or, for that matter, for advancing and broadening the field of the philosophy of education?

The philosophical site, for Deleuze, is always an open space or the multiplicity of planes on which concepts as multiplicities form a social field or a field of lines that would involve at once logical, political, and aesthetic dimensions. The concept “should express an event rather than an essence” (Deleuze, 1995, p. 25) and is to

be understood as a distribution of points on a plane that would comprise lines, going in multiple directions. Subjectivity is to be constructed in a multidimensional field and – never mind if it sounds paradoxical – is always posited as collective and plural: as a state of any other “thing”, it too is a relational entity, that is, a multiplicity.

The production of subjectivity is not based on any prescribed code, but is creative and artistic, and also includes ethical and aesthetic dimensions punctuated by moments when being *old* oneself simply would not make sense any longer. Because “when something occurs, the self that awaited it is already dead, or the one that would await it has not yet arrived” (Deleuze and Guattari, 1987, pp. 198-199), the infamous death of the subject is not to be mourned. Rather, the occurrence of an event, the human experience *per se* is to be considered as a condition of possibility, or “the inventive potential” (Massumi, 1992, p. 140), of becoming-other, that is, different from the present self.

The dynamics of *becoming*, described by a process in which any given multiplicity “changes in nature as it expands its connections” (Deleuze and Guattari, 1987, p. 8), can be considered a distinctive feature of Deleuzian thought: becoming-animal, becoming-woman, becoming-world, always becoming-other and always bordering on the element of minority. It is a minority, surviving on the margins, that serves as a medium of becoming: “all becomings are minoritarian” (Deleuze and Guattari, 1987, 291), all becomings are, first and foremost, becoming-minor.

Subjectivity, when understood as a process of becoming, differs from the traditional notion of the self looked at, and rationally appealed to, from the so called top down approach of the macroperspective of theory; instead Deleuze recognizes the micropolitical dimension of culture as a contextual and circumstantial site where subjects are situated and produced. As a qualitative multiplicity, subjectivity does not presuppose identity but is being produced in a process of individuation which is always already collective or, as Deleuze says, “populated” (Deleuze, 1987, p. 9).

Addressing the micropolitical, that is the pluralistic and particular versus the universal and absolute, nature of philosophical thinking, Deleuze and Guattari, in their final collaborative work, assert that “it does no credit to philosophy ... to present itself as a new Athens by falling back on Universals of communication .... The first principle of philosophy is that Universals explain nothing but must themselves be explained” (Deleuze and Guattari, 1994, p. 7), thereby transforming the intellectual practice, as Deleuze understands it, into philosophy-*becoming*.

For Deleuze, the ontological problem of being may therefore be seen “as a kind of *ad hoc* supporting structure or scaffolding enabling the construction of those planes, which in turn serve a fundamentally pragmatist relation to philosophy” (Wolfe, 1998, pp. 103-104) in terms of the would-be effects produced by relations external to their terms. Theory and practice are interrelated: theory performs a practical and pragmatic function, and “theoretical tools must unsettle and disturb those who would use them in order to bring new objects and events within range of

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thought” (Murphy, 1998, p. 213) in the process of inventing and creating new concepts.

The ontological priority of relations, for Deleuze, “is not a principle, it is a vital protest against principles” (Deleuze, 1987, p. 55). Relations may change, but it does not mean that the terms necessarily change too; what would change is a set of circumstances, the context. Deleuze is adamant that if relations are irreducible to their terms, then the whole dualistic split between the sensible and the intelligible, between thought and experience, between ideas and sensations becomes invalid and what is in operation is the experimental and experiential logic which is not “subordinate to the verb to be. ... Substitute the AND for IS. A *and* B. The AND is ... the path of all relations, which makes relations shoot outside their terms” (Deleuze, 1987, p. 57).

It is a set of relations that are capable of constructing the unpredictable experiential world, which unfolds in a seemingly strange manner, resembling:

a Harlequin’s jacket or patchwork, made up of solid parts and voids, blocs and ruptures, attractions and divisions, nuances and bluntnesses, conjunctions and separations, alternations and interweavings, additions which never reach a total and subtractions whose remainder is never fixed. ... This geography of relations is particularly important ... one must make the encounter with relations penetrate and corrupt everything, undermine being ... The AND ... subtends all relations ... The AND as extra-being, inter-being (Deleuze, 1987, pp. 55-57).

Such is the world as a pragmatic *effect* of the relations which put “to flight terms and sets” (Deleuze, 1987, p. 57); it continuously varies depending on the relations and is therefore open-ended: it is the relations that *affect* the world. The intensive capacity “to affect and be affected” (Deleuze and Guattari, 1987, p. xvi) is part and parcel of the dynamic subject’s complex rules of formation. The production of subjectivity includes an encounter with pure affect as if it were an autonomous and real being. The powerful intensity of such an encounter marks the passage between the experiential states of the body and accordingly affects the body’s capacity to act. The body, as Deleuze, borrowing from Spinoza – who, incidentally, has been considered by Deleuze to be a prince of philosophers – uses the word, is both physical and mental; the affect is not reduced to just a feeling or emotion but is a powerful force influencing the body’s ability to exist. Thought and matter therefore, as inscribed in the body, are not opposed to each other.

The capacity to exist and act is defined as the body’s power, the latter expressed by means of multiplying and intensifying connections as if producing a complex rhizome<sup>3</sup> rather than planting a simple root and, accordingly, raising the degree to which human capacities may be increased. The body, in the kinetic sense, is constituted by the relations between movement and rest, speed and slowness, which are reminiscent of a musical composition that depends on a complex relationship between multiple sounds. That is how the body lives and what becomes this body’s mode of life: “it is by speed and slowness that one connects with something else. One never commences; one never has a *tabula rasa*; one slips

in, enters in the middle; one takes up or lays down rhythms” (Deleuze, 1988b, p. 123).

In the dynamic sense, the affective capacity is what defines the body in action, and it is impossible to know ahead of time “the affects one is capable of” (Deleuze, 1988b, p. 125). Rather, the dynamics of knowing constitutes a long experiential affair, a process that would require, for Deleuze, practical wisdom in a Spinozian sense. By constituting the very form of content of intellectually mobile and dynamic concepts, the affective dimension in turn “affects” the notion of truth which in Deleuze’s philosophy may be considered a mobile concept *par excellence*. Truth, like any other concept, is not out there waiting to be discovered in its pre-existing domain of references to propositions. It “has to be created” (Deleuze, 1995, p. 126) and is bound to be affected by, and to affect in turn, a series of falsifications, so in the final analysis it is falsity that will have been producing truth by its own becoming-other.

The false has its own power, and the latter can be realized not in *form*, but in *trans-form*-ation. The field of knowing is greater than truth which is to be generated at each given moment and, for Deleuze, “there is no other truth than the creation of the New: creativity, emergence” (Deleuze, 1989, pp. 146-147), or giving shape to one’s existence rather than discovering its eternal and invariant form. Philosophical concepts, for Deleuze, are therefore artistic and involve at least:

two other dimensions, percepts and affects. Percepts aren’t perceptions, they’re packets of sensations and relations that live on independently of whoever experiences them. Affects aren’t feelings, they are becomings that spill over beyond whoever lives through them (thereby becoming someone else). ... Affects, percepts, and concepts are three inseparable forces, running from art to philosophy and from philosophy into art (Deleuze, 1995, p. 127).

The Deleuzian subject, in the process of becoming-other, is open to all three forces that in fact construe it by intervention from what Deleuze called the Outside, the latter consisting of:

political creations and social becomings: This openness is precisely the “producibility” of being. ... The power of society ... corresponds to its power to be affected. The priority of the right or the good does not enter into this conception of openness. ... What is open ..., is the expression of power: the free conflict and the composition of the field of social forces (Hardt, 1993, p. 120).

The power to be affected which, together with the corresponding power to affect, constitutes the power’s organizational structure, is completely filled, according to Deleuze, by passive and active affections. This means that, even in the absence of actions, passions are present: the passions of mind and body, that may become manifest in chance, or aleatory, encounters and assemblages of experiences.

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The interference of difference in-between conflicting schemes of human experience leads to Deleuze's conception of philosophy as the practical, experiential and quasi-empirical, mapping of such a difference. Philosophy, for Deleuze, borders on non-philosophy, as if on its own other, and conceptual thinking – contrary to conventional logic of reason “proper” – overlaps with ethical, aesthetic and affective domains, indeed as if letting the other be. Deleuze and Guattari say that “affects ... traverse [one's universe] like arrows or ... like the beam of light that draws a hidden universe out of the shadow .... Art thinks no less than philosophy, but it thinks through affects and percepts” (Deleuze and Guattari, 1994, p. 66). The affects are immanent, and immanence is understood by Deleuze as “no longer immanent to something other than itself” (Deleuze and Guattari, 1994, p. 47).

Deleuze introduces his notion of the plane of immanence,<sup>4</sup> linking it to radical empiricism, which “knows only events and other people and is therefore a great creator of concepts” (Deleuze and Guattari, 1994, p. 48). The topological nuance as expressed in the *plane* inherent in the affective dimension brings forth the spatial metaphor: events or becomings are not totally in flux, but happen in the uncertain, yet highly specific, space – or non-place – between multiplicities, whose mode of existence is, as we remember, a multitude of relations.

The subject-in-process, that is, as *becoming*, is always placed between two multiplicities, yet one term does not become the other; the becoming is something *between* the two, this something called by Deleuze a pure *affect*. Therefore *becoming* does not mean becoming the other, but *becoming-other*. In fact, “The self is a threshold, a door, a becoming between two multiplicities, as in Rimbaud's formula ‘I is another’” (Smith, 1997, p. xxx). Becoming *is* affect by definition – we remember that affect defines the body's capacity to exist and its power to act – and affect is beyond affection, similar to percept always exceeding a simple perception.

The non-place in-between acts as a gap, or differentiator, introducing an element of discontinuity in the otherwise continuous process of becoming and allowing the difference to actively intervene. Becoming, while “taking place” (pun intended) in a gap, created by non-place, is nonetheless:

an extreme contiguity within coupling of two sensations without resemblance or, on the contrary, in the distance of a light that captures both of them in a single reflection. ... It is a zone of indetermination, of indiscernibility, as if things, beasts, and persons (Ahab and Moby Dick ... ) endlessly reach that point that immediately precedes their natural differentiation. This is what is called an *affect* (Deleuze and Guattari, 1994, p. 173).

The presence of such a zone of indiscernibility, a [dis]continuity, “a no-man's-land” (Deleuze and Guattari, 1987, p. 293), constituted by blurred and nonlocalizable relations, transforms Deleuzian philosophy into an open set of pragmatic tools, psychological interventions and artistic creations. This philosophy would not conform to the schematics of the progressive and uninterrupted building-up of knowledge toward some higher ideal end. Progress of the latter kind, for Deleuze and Guattari, would represent “the submission of the line to the point”

(Deleuze and Guattari, 1987, p. 293), that is a return to representational thinking and the idea of the correspondence theory of truth, a regress indeed. Instead their philosophy is concerned precisely with:

[a] line of becoming [which] is not defined by points that it connects, or by points that compose it; on the contrary, it passes *between* points, it comes up through the middle. ... A line of becoming has only a middle. The middle is not an average; it is fast motion, it is the absolute speed of movement. A becoming is neither one nor two; ... it is the in-between, the border or line of flight or descent running perpendicular to both. ... The line or block of becoming that unites the wasp and the orchid produces a shared deterritorialization: of the wasp, in that it becomes a liberated piece of the orchid's reproductive system, but also of the orchid, in that it becomes the object of an orgasm in the wasp, also liberated from its own reproduction (Deleuze and Guattari, 1987, p. 293).

Subjectivation, functioning as a creative potential quite close to the Foucauldian "art of oneself that's the exact opposite of oneself" (Deleuze, 1995, p. 115) becomes manifest in one's ability to express oneself passionately and freely, and "has little to do with any subject. It's to do, rather, with an electric or magnetic field, an individuation taking place through intensities, fields ..., it's to do with individuated fields, not persons or identities. It's what Foucault, elsewhere, calls 'passion'" (Deleuze, 1995, p. 93).

If there is no *a priori* subject, there cannot be *a priori* knowledge either: knowledge as the operation of a subject is a meaningless notion. Deleuze (1988b) shares with Spinoza his assertion that rather than our affirming or denying something of a thing, it is in fact the thing itself that would affirm or deny something of itself in us, overcoming in this process the limitations of narrow subject-centered knowledge.

Let us stop for a moment at this point in order to specifically address the aforementioned notion of *individuation*. For this purpose it will be necessary to take a momentary detour from Deleuze and Guattari as the philosophers in question. The meaning of individuation is ambiguous. The concept of individuation, as well as individualism, has long been considered problematic in American social philosophy. Bellah, Madsen, Sullivan, Swidler and Tipton (1996), for example, regard ontological individualism as an ultimately destructive force that contradicts universal moral values and strongly resists such universal virtues "as care ... and let alone wisdom" (1996, p. xi).

Forever contaminated by what Bellah et al consider the "mistaken identification" (1996, p. ix) of individuality with adolescents' striving for independence, the adult self becomes alienated in the very process of finding oneself. For Bellah et al, the assumption of the self as a free agent, capable of exercising free choices throughout the course of one's life, is unquestionable. They find the detachment of the self from a sociocultural tradition not only problematic but also rooted deeply in historical American "selfhood" (Bellah et al, 1996, p. 55) and moral life in general.

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If American culture has succeeded in emphasizing the value of self-reliance, then leaving home as a precondition to finding one's real Self becomes a common cultural pattern. Severing ties with the past leads, on the other hand, to losing the firm ground under one's feet and subsequently substituting a set of arbitrary individual values for such a foundation. However the absence of what Bellah et al call "an objectifiable criterion for choosing one value or course of action over another" (1996, p. 76) leads, in their opinion, to the creation of empty selves defined by casual and arbitrary preferences.

The moral universe of those beings is, for Bellah et al, filled with idiosyncratic value judgments; as a result it becomes totally devoid of moral universals as well as of "any fixed moral end" (Bellah et al, 1996, p. 76). Accordingly, the sense of self seen by Bellah et al as being perpetually in progress, acquires somewhat negative connotations. After collecting plenty of empirical data and using sound observations, Bellah et al arrive at a characteristic picture of a contemporary self who is free of absolute values or firm moral obligations and who at will can alter not only its own behavior but assume different social roles too.

Putting on one social mask after another, such a self apparently "can play all of them as a game, keeping particular social identities at arm's length, yet never changing its own 'basic' identity, because that identity depends only on discovering and pursuing its own personal wants and inner impulses" (Bellah et al, 1996, p. 77). Bellah et al contrast the traditional notion of objectified moral goodness with the subjective goodness of getting and enjoying one's wants, pointing toward the procedure when utility takes over one's duties so that the self begins to equate moral goodness with just feeling good as a final result.

Despite everyone obviously being able to figure out what they want based on what makes them feel good, Bellah et al express their doubts about the possibility of true self-knowledge, arguing that one's values and wants cannot be independent of those of others and thus never uncompromised by others' feelings. Thus the ambiguity and elusiveness of "individualistic self-knowledge" (Bellah et al, 1996, p. 79) are implicit in the pursuit of happiness, the latter becoming reduced to what Bellah calls a radical private validation within a completely autonomous quest separated from "family, religion and calling as sources of authority, duty and moral example" (Bellah et al, 1996, p. 79).

In this sense the gap between objective and subjective values expands to incorporate now the absence of commitments as well, and Bellah et al arrive at their bitter conclusion of the narrowness of not only the external world defined solely by economic success, but also of the subjective, introspective and intuitive, world:

Ideas of the self's inner expansion reveal nothing of the shape moral character should take, the limits it should respect, and the community it should serve. Ideas of potentiality (for what?) tells us nothing of which tasks and purposes are worth pursuing .... The improvisational self chooses values to express itself; but is not constituted by them as if from a pre-existing source (Bellah et al, 1996, p. 79).



Bellah et al reflect on the philosophical tradition of empiricism as so deeply embedded in the human mind that it prevents one from seeing the self in relation to both social and moral realities, so that reality as such needs to be rationalized in order to be seen as coherent and not totally accidental, and one's arbitrary choices are then justified, however without considering the larger social, historical and perhaps religious context.

Saying that, it becomes clear that Bellah et al describe the process of finding oneself in terms of negative freedom, the idea of which is rejected by them. Considering the turning points of breaking free from "family, community and inherited ideas" (Bellah et al, 1996, p. 83) as manifestations of negativity, Bellah et al provide an unambiguous "no" as their answer to the question of whether the individualistic self with its values independent from any social dimensions "serves us well as a society" (1996, p. ix). The conclusion that the authors reach is mandatory: the transformation of culture must take place, and not only at the level of individual consciousness; the latter will not suffice.

Bellah et al contend, as Noddings (1997) has noticed, that the spirit of a community acting as a group of socially interdependent people "has been too often sacrificed to individualism and the pursuit of secular and ephemeral forms of self-actualization" (Noddings, 1997, p. 4). Yet, despite their proposed and *positive* move spelled out as a creation of a democratic community in the best civic or biblical tradition, as well as their acknowledging that such a community cannot be formed at once, there are some contradictions implicit in Bellah et al's recommendations.

I imagine the impact this book had on its readers when first published and I wonder how many of those "selves" rushed forward, with great hopes and equipped with their best intentions, into action and ... failed. The question of how one ought to live one's life in order to overcome moral crisis has not been answered. This vicious circle, as the object of Bellah et al's understandably deep concern, has not been broken.

Acknowledging in all fairness the uncertainty and complexity of contemporary life, Bellah et al nevertheless insist on fixed moral ends, on one's self unambiguously defined in terms of objective certainty, and on the course of action leading to finding oneself as a part of larger whole represented by a community of like-minded people. This begs the question, however, of what criterion Bellah et al would use in order to recognize the said like-mindedness? And in relation to what? To oneself? But how does one know oneself if the very process of finding oneself in terms of a negative freedom is disregarded and rejected by the authors? What would then be the point of comparison? If it is a common moral good, then why do the authors emphasize like-mindedness, or is there an implicit assumption that someone would still pursue "uncommon" good or, worse, common evil?

The concept of complexity, never mind that it is widely used by Bellah et al, is full of diverse and implicit figurations, the main one of which is the following: complexity presupposes, by its very definition, the existence of multileveled relations – the latter, as we remember, comprising Deleuze's qualitative multiplicities – that constitute the structure, which is not rigid but flexible and

dynamic (see Cilliers, 1998). Complexity theory by its very nature regards the analysis of individual components of a system, that is, “selves” in Bellah’s parlance, to be insufficient conditions to come to terms with the system’s dynamics as a whole, the latter strongly depending on the so-called self-organized criticality.

The rich meaning of this notion, despite the fact that complexity *per se* belongs to Bellah et al’s vocabulary, is overlooked; instead Bellah et al use a sort of its reduced version in the sense of negative freedom. From the perspective of self-organization, the complex systems may be amenable to analysis within the poststructuralist framework which takes into consideration the many contingencies inscribed in the system’s dynamics and not only the infamous great divide between the subjective world of “I am” and the larger objective order of being.

The posited gap cannot be overcome by a strictly linear connection, despite many noble ideas, including Bellah’s et al democratic community that serves as a means toward building such a link. Living systems, such as human beings, or social structures, or language, are 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 dynamic; the interactions within the system change with time; and time itself becomes an intervening variable precluding the permanency or constancy of any theory. At any given moment complex systems have their temporal history that cannot be ignored.

Moreover, the interactions constituting the system’s dynamics are non-linear; instead, they are loop-like, and a single cause may very well produce various effects, or a single effect may very well appear to be a result of multiple, diverse and indirect causes. The overall influence, due to many interactions, gets modulated and may spread, or become distributed, from the immediate neighboring regions to the far-away territories, like ripples that may create many patterns on the water surface. Many non-local connections are formed by loops, leading to new properties emerging at subsequent levels which are not immediately connected with the preceding ones but nevertheless continuous with the latter by virtue of the effect produced at a new level. There are loops there, that is, any activity – because of the system’s complexity and its unorthodox structure – may feed back on itself creating recurrence and self-reference as a necessary feature of the system’s dynamics.

Yet, the system remains open, that is it exists by means of constant interactions and exchanges of energy, in whatever form, with its environment defying the notion of a strictly defined border – a great divide – between its own inside and outside. Philosophically, and because of the interactions, the meanings of patterns cannot be defined as dependent on either, but instead the possible meanings are conferred by the relationships *between* the structural components of the system at large, the in-between relations becoming a precursor for the distributed representation inscribed in many connections that are potentially effected by the said relations.

The 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, that is, it has

plasticity enabling its own self-organization. Such is the process-structure of the complex adaptive system.

In this respect, when Bellah et al mention structural changes, they *a priori* disregard the complex character of the structure *per se* despite themselves acknowledging the latter's complexity and recognizing the historical character of a community which therefore becomes a community of memory. The structural changes occur precisely in those nodal points that appear to be presented by Bellah et al as almost of a kind of original sin: separation, leaving home, etc. – leading to the metaphorical loss of paradise in a guise of traditional values and mores. Bellah et al widely use the term of a logic of relations, emphasizing interrelatedness and interdependence as recurrent themes throughout the book, and assert that the moral void in which the individual selves are suspended is derived from their being simply unaware of the possibility of existing sociocultural relations.

But stressing interrelatedness in the larger social context, Bellah et al still seem to distinguish between the individual aspects of self-formation and its social aspects. However the assumption of their – by necessity – interconnectedness leads to acknowledging their mutual interdependence even in the absence of a special or, as Bellah says, second language to articulate the relationship. The paradox consists of individualism and commitments constituting a complex, irreducible to the dyadic relationship, system.

The self, therefore, is never totally empty: a portion of the identity – if we use Bellah's vocabulary – must be constituted by commitments by virtue of the very relations between the parts acting within the overall dynamics of the whole system. But are the said commitments derived from the nostalgic pre-existing source, as Bellah would want them to be? The answer may not be affirmative at all, because the source as a feature of complexity cannot be located solely in the past cultural values, as Bellah et al would have insisted, but is constituted – thus losing its very significance as a *source* – by values constructed in the process of individuation itself because the process in question is non-linear and recurrent by definition.

If Bellah's fundamental assumptions are challenged, then the very process of finding oneself – although not described solely in terms of a negative freedom, yet incorporating the latter – will stand out as a process of constructing one's identity. The individual self, rather than being seen as a self-destructive force stretched to its limits in the dialectical tension that is, sure enough, both “invigorating ... [and] anxious” (Bellah et al, 1996, p. 154) becomes a site of construction, and it is in this process that the connection – though initially disguised as a separation, its being either physical, or psychical, or both – takes place. Accordingly, if the self is not totally empty, it cannot be totally free either. Bellah et al would perhaps support such a fuzzy boundary; they note anyway that “the notion of an absolutely free self led to an absolutely empty conception of self” (1996, p. 139). Thus the notion of freedom *per se* becomes ambiguous, and choice becomes a paradox in itself.

Freedom of choice is considered by Bellah et al as given and unquestioned, except in terms of virtues embedded in choice. But the partially free selves are therefore obliged to choose – which means that their making a choice itself becomes a necessity. The choice that is defined as arbitrary by Bellah et al

becomes a contradiction in terms because it is never totally arbitrary, and the self that is simply unable to make choices just according to its own volition is therefore never completely improvisational or unencumbered.

Interrelatedness leads to the system becoming organized at a new level of complexity by means of the former acting along a delicate and movable (perpetually in progress? Yes, but without Bellah's et al strings of negativity attached), modulating line, which becomes a constituting part of self-identity, if we continue using Bellah's discourse. In Deleuze's terms, however, this in-between line – indeed perpetually in progress, between yesterday and tomorrow, between here and there, between before and after – constitutes becoming-other. It is along this fragile line that “future and past don't have much meaning, what counts is the present-becoming: geography and not history” (Deleuze, 1987, p. 23), and it is along this fuzzy boundary that the distinction between choice, chooser and the chosen ceases to exist.

This line introduces asymmetry by being itself a “a third which ... disturbs the binarity of the two, not so much inserting itself in their opposition as in their complementarity” (Deleuze, 1987, p. 131). All three enter the so called zone of indiscernibility because of the relation of reciprocal presupposition – the term coined by Deleuze and Guattari – enabling their interaction. From the perspective of Deleuze's poststructuralist conceptualizations – and we have just noted that poststructuralism shares the views advanced by the theory of complex adaptive systems – the self would be defined as a singularity, that is, the one who, in terms of real-life events, may have experienced separation and probably even isolation as a precursor to individuation.

This singular self, for Deleuze and Guattari, is a haecceity – or thisness – embedded in the dynamic regime of its own production from which it must be extracted. The complexity of subject-formation is expressed in what at first sight seems to be a rather strange notion of subjectless subjects. Deleuze asks, “What is a young girl or a group of young girls? ... They have in common the imperceptible. ... Proust describes them as moving relationships of slowness and speed, and individuations by haecceity which are not subjective” (Deleuze, 1987, p. 93) but always collective, always of the nature of and in *relationships*. The haecceity is an event, that is a singularity in a dynamic regime of multiple transformations. The relational dynamics constitute an anti-representational, pluralistic and distributive semiotics which cannot be reduced to a static recognition, and Deleuze would have agreed with John Dewey that “there is an impact that precedes all definite recognition of what it is about” (Dewey, 1934/1980, 145), an affective impact. In his work *Proust and Signs*, Deleuze (2000) elaborates on the complexity in the dynamics of meaning-making.

One's identity, like Alice's behind the looking glass, is always contested: the seemingly paradoxical element of changing one's identity leads to self-identity itself losing its stable meaning. It reflects on the dynamics of becoming-other and discarding or transforming the values that were once established. The sense of the self as singular is derived from the individuation not limited to just a person but encompassing the whole event in a context described by Deleuze as “a draft, a

wind, a day, a time of day, a stream, a place, a battle, an illness” (Deleuze, 1995, p. 141). It is an experiential situation distributed along the space-time continuum where “something [is] passing through you” (Deleuze, 1995, p. 141).

Such a singular self, contrary to representing Bellah’s “completely asocial individualism” (Bellah et al, 1996, p. 145), is capable of multiple “leaps from one soul to another, ‘every now and then’ crossing closed deserts. ... And from soul to soul it traces the design of an *open* society, a society of creators” (Deleuze, 1991, p. 111). The “now and then” are distinctive points, or *events* within the qualitative multiplicity, the latter functioning, as we remember, as a mode of existence of any “thing” including subjectivity. It is an experiential event that indeed affects the shape, in almost mathematical terms, of one’s life by virtue of itself being a variation on the curve that gives this or that shape to any figure.

The liberation of the self and its entering society occur because of the process described as “their circular play in order to break the circle” (Deleuze, 1991, p. 111). The interval between the pressures of society and the disputes of the individual is creative by embodying the circle of a free play that “no longer has anything to do with an individual who contests ..., nor with a society that constrains” (Deleuze, 1991, p. 111), never mind that the circle in question would have been of course considered by Bellah et al as vicious. The choice that the self makes is different from Bellah’s idiosyncratic and arbitrary choice because it cannot but “consist in choosing choice, [therefore] is supposed to restore everything to us” (Deleuze, 1986, p. 116). The circularity of the second order is created, quite paradoxically, by means of breaking the circle as if turning the vicious into the virtuous.

To restore, as Deleuze uses the term, means to have a freedom to choose, that is not to go back to the old, but to be able to make a choice *per se* a mode of existence. As Deleuze says, reflecting on the whole philosophical tradition from Pascal to Kierkegaard, “the alternative is not between terms but between the modes of existence of the one who chooses” (Deleuze, 1986, p. 114), and what takes place here is a reconstruction of experience. Referring to Kierkegaard, Deleuze comments on the story of Abraham and asserts that the sacrifice the latter makes is not through duty but “through choice alone, and through consciousness of the choice which unites him with God, beyond good and evil: thus his son is restored to him” (Deleuze, 1986, p. 116) at this critical point of no return.

Deleuze uses a powerful visual metaphor to describe the transformation and, by means of this image, accentuating also the significance allotted in his philosophy not to the point, but to the *line*: “One must multiply the sides, break every circle in favor of the polygons” (Deleuze, 1987, p. 19). For Deleuze,

once one steps outside what’s been thought before, once one ventures outside what’s familiar and reassuring, once one has to invent new concepts for unknown lands, then methods and moral systems break down and thinking becomes, as Foucault puts it, a “perilous act”, a violence, whose first victim is oneself (Deleuze, 1995, p. 103).

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The notion of critical freedom which is implicit in Deleuze's philosophy is therefore different "from the standard liberal concepts of positive and negative freedom" (Patton, 2000, p. 83). Liberal thought, rather than taking into consideration the overall conditions of change as a *whole*, assigns to an individual self the center-stage of a volitional and pre-given subject, thus conflating a whole with its single part. By contrast, Deleuze's poststructuralist "subject" continuously exercises the critical freedom which, as we said earlier, takes place through individuated fields, the very notion of the field implying the collective and distributed nature of the subjectivity-in-process as always already becoming-other.

For Deleuze and Guattari, liberation is not control or manipulation of reality by the subject that would have been located outside of that very arrangement she herself imposed on the world. Instead liberation consists in the free expression of forces that constitutes the subject at the ontological level. The subject is never an isolated independent individual but is the most versatile component of the whole complex collective system. Leach and Boler (1998) notice that Deleuze situates the complex notion of freedom

within and as part of the development of nature, rather than its conquest and mastery ... Deleuze's philosophical urgencies have resulted in elaborations of alternative accounts of the processes constitutive of subjectivity (Leach and Boler, 1998, p. 155).

Subjectivity of this sort becomes manifest by one's being capable of expressing oneself passionately and freely in order "to bring something to life, to free life from where it's trapped, to trace lines of flight" (Deleuze, 1995, p. 141), to break down old methods and to break out into new territories, such a process aptly identified by Deleuze and Guattari by means of *deterritorialization* and *reterritorialization* respectively.

The language of expression in a recursive process of de-, and consequently, re-territorialization can exist in the form of both discursive, or articulable, and non-discursive, or visible, assemblages. Neither is reducible to the other but both can be combined in a diagrammatic mode that functions as a connective link along which all knowledge is produced: according to Deleuze, all knowledge runs in-between the visible and the articulable.

In its pivoting or "piloting" (Deleuze and Guattari, 1987, p. 142) role a diagram operates by the function it performs. In its functional rather than structural description, it

has only "traits," of content and expression, between which it establishes a connection .... The diagram retains the most deterritorialized content and the most deterritorialized expression, in order to conjugate them. ... The diagrammatic or abstract machine does not function to represent, even something real, but rather constructs a real that is yet to come, a new type of reality. ... [O]n the diagrammatic level ... form of expression is no longer really distinct from form of content. The diagram knows only traits and cutting edges that are still elements of content insofar as they are material and

of expression insofar as they are functional, but which draw one another along, form relays, and meld in a shared deterritorialization (Deleuze and Guattari, 1987, pp. 141-142).

The “in-between-ness” of a diagram constitutes the element of Thirdness in a manner conceptually analogous to Charles Sanders Peirce’s triadic semiotic model and his diagrammatic reasoning<sup>5</sup>: Both multiplicities “open up on to a third: a multiplicity of relations between forces” (Deleuze, 1988, p. 84) which act in the space of the Outside.

The Deleuzian *Outside* does not mean the rejection of interiority; just the opposite, the outside and the inside, or the deep layer of the internal world, exist in a dynamic relationship. For Deleuze,

The outside is not a fixed limit but a moving matter animated by peristaltic movements, folds and foldings that together make up an inside: they are not something other than the outside but precisely the inside *of* the outside. ... The inside is an operation of the outside: ... an inside ... is ... the fold of the outside (Deleuze, 1988a, pp. 96-97),

this doubling and folding, as Deleuze says, being “the theme that has always haunted Foucault” (Deleuze, 1988a, p. 97).

In the same manner, also folded, is a rational thought as related to non-thought or un-thought, making “unthought therefore not external to thought” (Deleuze, 1988a, p. 97) but being folded into “its very heart” (Deleuze, 1988a, p. 97). The fold thus is the powerful symbol of overcoming the otherwise incompatible dualism between rational and non-rational – or cognitive and precognitive – thinking, or any of the binary opposites for that matter, which traditionally would be considered a seemingly “impossible admixture” (Holder, 1995, p. 179).

The concept of fold, albeit first explored by Deleuze with regard to Foucault’s thought (Deleuze, 1988a), has been later elaborated upon in Deleuze’s work on Leibniz (Deleuze, 1993) where he undertook an analysis of fold in terms of mathematical inflection, a virtual entity. Defined as an intrinsic singularity, the fold “corresponds to what Leibniz calls an ‘ambiguous sign’” (Deleuze, 1993, p. 15).

Using examples of Paul Klee’s art, Cache’s architectural forms and Rene Thom’s seven types of mathematical transformations, or catastrophic events, one of which indeed is called the fold, Deleuze asserts the movement of inflection, or variation, along an infinitely variable curve, which

passes through an infinite number of angular points and never admits a tangent at any of these points. It envelops an infinitely cavernous or porous world, constituting more than a line and less than a surface (Mandelbrot’s fractal dimension as a fractional or irrational number, a nondimension, an interdimension) (Deleuze, 1993, p. 16).

Under the guise of an ambiguous sign, “we go from fold to fold and not from point to point ... [T]here remains the latitude to always add a detour by making each interval the site of a new folding. ... Transformation [is] deferred ...: the line

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effectively folds into a spiral ... The fold is Power. ... Force itself is an act, an act of the fold” (Deleuze, 1993, pp. 17-18).

The production of subjectivity, for Deleuze, is effected by unfolding: Being as fold is more than a simple projection of the interior. Its meaning cannot be reduced to the terms of local, albeit nuanced, representation; as we said earlier, the complexity of the process precludes static representations and instantiates instead distribution and recursivity. In this respect the Outside, as a relation proper, always maintains an ontological priority, therefore Being as fold

is an interiorization of the outside. It is not a doubling of the One, but a redoubling of the Other. It is not a reproduction of the Same, but a repetition of the Different. It is not the emanation of an “I”, but something that places in immanence the always other or a Non-self. ... I do not encounter myself on the outside. I find the other in me (Deleuze, 1988a, p. 98).

Reproduction of the same would amount to mimesis; the repetition of the different, however, is embedded in a play of semiosis. Far from centering on the “constituting” subject, subjectivation means the invention and creation of new possibilities of life by means of going beyond the play of forces; as such, the subject becomes constituted in a process. In this respect, Deleuze’s philosophy tends towards feminist ethics (see Noddings, 1998) that contrasts postmodern subject as constituted with the volitional, *a priori* knowing and therefore “constituting”, modern self.

For Deleuze, personal crises that one may encounter in life, are not ugly forms betraying the dream of some aesthetic ideal; instead they are those experiential events – Thom’s catastrophes, indeed – or turning points, expressing the play of forces without which no transformation to a new form would have been possible. The transformational pragmatics of Deleuze and Guattari must begin in the middle as if “among a broken chain of affects” (Deleuze and Guattari, 1987, p. 9) enfolded in the very middle and muddle of life itself. Yet, the folds of experience would have encompassed qualitative multiplicities of both material and immaterial signs, or pure events, the unfolding of which would have been giving rise to meaning, producing contingent truth(s) embedded in the context of local situations.

Dissonance, for Deleuze, is necessarily enfolded in harmony: the two are in accord, as in Baroque art. The experiential world itself is folded and, as such,

we can endure it, so that everything doesn’t confront us at once. ... “Children are born with twenty-two folds. These have to be unfolded. Then a man’s life is complete.”<sup>6</sup> ... It’s not enough for force to be exerted on other forces or to suffer the effect of other forces, it has to be exerted upon itself too. ... That’s what subjectification is about: bringing a curve into the line, making it turn back on itself, or making force impinge on itself. ... There’s no subject, but a production of subjectivity: subjectivity has to be produced, when its time arrives, precisely because there is no subject. The time comes once we’ve worked through knowledge and power; it’s that work that forces us to frame a



new question, it couldn't have been framed before. ... Subjectification is an artistic activity (Deleuze, 1995, pp. 112-114).

The act of *bringing a curve into the line* is only possible by means of cutting this curve, the very event of making a cut introducing a discontinuity, an apparent symmetry-breaking as a precursor to novelty. Incidentally, Holder (1995), addressing the conception of creativity and its allusion with the thinking process as derived from John Dewey's logic as a theory of inquiry, presents a powerful example of such an element of discontinuity in "the instance of a great work of art – for example, the thinking that coordinates the emergence of Michelangelo's *David* from a hunk of marble – [this is] a degree of discontinuity that epitomizes the kind of thinking that is called creative" (Holder, 1995, p. 186). The force, as embodied in marble, must impinge on itself, must undergo a cut so as to be creative, *to become*.

The autoreferential exertion of force upon itself not only leads to a production of subjectivity but also ensures its emergence at a new, higher, level. What is *implicated* in a fold is not only *explicated* but also, in the process of becoming-other, involves *complication* expressed as "a set of intensities" (Deleuze, 1995, p. 115), that is, an emergence of a different and new level of organization in a complex living system.

At this more *complicated* level there won't be any room for the old set of values, nor are eternal ones stored there. Ethics is inherent in the production of subjectivity, and subjectification, for Deleuze, is "ethical and aesthetic, as opposed to morality" (Deleuze, 1995, p. 114).

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always speaks of values that are to come. ... [T]he artist and philosopher do not conjure things out of thin air, even if their conceptions and productions appear as utterly fantastical. Their compositions are only possible because they are able to connect, to tap into the virtual and immanent processes of machinic becoming .... One can only seek to show the power, the affectivity, the ... alienated character of thought, which means being true to thought and untrue to oneself .... One ... is drawn to the land of the always near-future (Ansell-Pearson, 1997, p. 4).

The tapping into the virtual (never mind real) means a possibility for its *becoming-actual*. Indeed, the emergence of *David* out of the marble as an artistic act is "the actualization of possibilities" (Holder, 1995, p. 186) or the new form – that nonetheless has always already been there in its potential, futuristic aspect – having been created or, better to say, having taken a new shape.

Things, sure enough, are never being conjured out of the thin air but are continuously becoming-other. Deleuze says that we "are made up of lines" (Deleuze, 1987, p. 124), we are moving relationships, lines move us, and the most strange line is the one that carries us across many thresholds towards a destination which is unpredictable. This type of line is afforded a special place in Deleuze's philosophy. This line is "not foreseeable, not pre-existent. This line is simple,

abstract, and yet the most complex of all, ... the line of flight and of the greatest gradient. ... [T]his line has always been there, although it is the opposite of a destiny” (Deleuze, 1987, p. 125). Many tangled lines constitute what Deleuze calls *terra incognita*, that is, an unknown territory that may have been mapped, yet would have escaped representation.

Lines always branch and bifurcate, fold and unfold, and “you can only get anywhere by varying, branching out, taking new forms. ... In Leibniz’s words: a dance of particles folding back on themselves” (Deleuze, 1995, p. 157). In agreement with Deleuze’s emphasis on the continuous creation of new concepts, the concept itself is described as the future constellation of an event, or the map’s territory, thus implying the distributed, movable or – as Deleuze says – nomadic, character of the would-be representation in the classical sense.

The ontological problem of being in Deleuze’s philosophy is addressed not by means of a rationalistic debate and analyzing arguments but by employing “literary, artistic and ideological forms of mapping” (Bosteels, 1998, p. 146) that belong to the format of cultural studies and indicate the presence of a cartographic tendency in contemporary critical thinking. The praxis of such thought would have involved perpetual dislocations, folding and unfolding up to the point of thought itself becoming an abstract machine that nonetheless may have found its expression in a diagram or a map.

The proverbial relationship between a map and a territory avoids both the trap of a local representation and the temptation of deconstruction; instead it is a self-referential process during which “the map ... merges with its object, when the object itself is movement ... [and] the trajectory merges not only with the subjectivity of those who travel through a milieu, but also with the subjectivity of milieu itself, insofar as it is reflected in those who travel through it” (Deleuze, 1997, p. 61).

The cartographic approach also affords the reconceptualization of the unconscious which, for Deleuze and Guattari, cannot be reduced just to psychoanalytic drives or instincts, or “playing around all the time with mummy and daddy” (Deleuze, 1995, p. 144). Cartesian consciousness as the sole constituent of thought is devalued because non-thought, for Deleuze, is equally capable of producing effects, and, in the Spinozian manner, Deleuze considers “*an unconscious of thought* [to be] just as profound as *the unknown of the body*” (Deleuze, 1988b, p. 19; Deleuze’s italics). Mind is not taking priority over material body or vice versa, instead both are considered to be a series in operation: the actions in the mind are the actions of the body and, respectively, the passions of the body are the passions in the mind.

Because production of subjectivity always already includes the realm of the unconscious, “the cartographies of unconscious would have to become indispensable complements to the current systems of rationality of ... all ... regions of knowledge and human activity” (Guattari, original French, in Bosteels, 1998, p. 155). The unconscious is posited as enactive, itself plurality or multiplicity, that exceeds the scope of traditional psychoanalytic thought. Over and

above the personal unconscious, it is conceptualized by Deleuze and Guattari as Anti-Oedipal, that is, irreducible to the single master-signified.

Reminiscent of the Jungian collective unconscious, it always deals with some social and collective frame and is “a productive machine, ... at once social and desiring” (Deleuze, 1995, p. 144). In his *Dialogues* with Claire Parnet, Deleuze (1987) describes the conversation between Freud and Jung: Jung points out to Freud the importance of multiple elements constituting particular context and appearing in the unconscious. Such is the collective assemblage defined as “[t]he minimum real unit” (Deleuze, 1987, p. 51). Deleuze also reminds us of Freud’s not paying attention to the assemblages within an experiential situation – constituting the qualitative multiplicity – in the famous case of Little Hans:

Freud ... takes no account of the assemblage (building-street-nextdoor-warehouse-omnibus-horse-a-horse-falls-a-horse-is-whipped!); he takes no account of situation (the child has been forbidden to go to the street, etc.); he takes no account of Little Hans’s endeavor (horse-becoming, because every other way out has been blocked up ...). The only important thing for Freud is that the horse be the father – and that’s the end of it (Deleuze, 1987, p. 80).

Unconscious formations are to be brought into play both because an individual is a desiring machine and the “family drama depends ... on the unconscious social investments that come out in *delire*” (Deleuze, 1995, p. 20), that is, in a pre-rational, differential and excessive, triadic logic of floating images and disparate meanings inhabiting the Alice’s paradoxical Wonderland. Desire is not a single drive – it is an assembly line of affects and effects; machine is not a mechanical law utilized in the production of some predetermined end imposed by a transcendental subject – instead subjects and objects are themselves differentiated and produced as the outcomes of desiring machines.

The unconscious enfolded in subjectivity entails the insufficiency for subjectivity to be interpreted just in terms of the stable identity of the rational and intentional subject, or some ideal authentic self. There is no transcendental subject for Deleuze, it vanishes like the infamous ghost into the unconscious machine, it is nowhere to be found. The unconscious, as yet a-conceptual part of the plane of immanence is always productive and constructive, making subjectivity changing and transient as though forcing it into becoming-other.

According to Deleuze, “the intentionality of being is surpassed by the fold of Being, Being as fold” (Deleuze, 1988a, p. 110). In this respect, the unconscious perceptions are implicated as minute, or microperceptions; as such – and *le pli*, the root of the *im-plied*, means in French *the fold* – they are part of the cartographic microanalysis of establishing “an unconscious psychic mechanism that engenders the perceived in consciousness” (Deleuze, 1993, p. 95).

The notion of being as fold points toward a subjectivity understood as a process irreducible to universal notions such as totality, unity or any *a priori* fixed self-identity. As a mode of intensity, subjectivity is capable of expressing itself in its present actuality neither by means of progressive climbing toward the ultimate truth or the higher moral ideal, nor by “looking for origins, even lost or deleted

ones, but setting out to catch things where they were at work, in the middle: breaking things open, breaking words open” (Deleuze, 1995, p. 86).

The complexity of subjectivation is related to the complexity of language: there cannot be a single meaning derived from the classical signifier-signified based model, because such description would fail to acknowledge the Deleuzian plural and pragmatic subject’s mode of existence as qualitative multiplicity. Subjectivity is always derivative to the expression of thought, and being true to thought is pre-eminent to the production of subjectivity. The fundamental Deleuzian concept of fold contributes to the blurring of boundaries between epistemology, ethics, and psychology: subjectivity expresses itself through emergence of a new form of content: it becomes other by way of interaction, or the double transformation – as in the aforementioned and oft-cited example of wasp and orchid.

In the Introduction I have already pointed out the significance of Deleuze’s notion of two-sided transformation and its relevance to Dewey’s philosophy. Because this concept is crucial and makes the folding of the *inside* and *outside* the cornerstone of Deleuze’s philosophy – which in turn, as we will see in the later chapters, affects the very methodology of postmodern research in education – I would like to underline again its affinity with the following expanded excerpt from Dewey’s *Art as Experience* (1934/1980). Dewey emphasizes the dynamic and mediating function of the material, as well as the “suddenness of emergence” (Dewey, 1934/1980, p. 75) of new structural forms:

The connection between a medium and the act of expression is intrinsic. An act of expression always employs natural material ... It becomes a medium when it is employed in view of its place ... It takes environing and resisting objects as well as internal emotion and impulsion to constitute an expression. ... The act of expression that constitutes a work of art is a construction in time. ... [T]he expression of the self in and through the medium ... is *itself* a prolonged interaction of something issuing from the self with objective conditions, a process in which both of them acquire a form and order they did not at first possess. ... On the side of the self, elements that issue from prior experience are stirred into action in fresh desires, impulsions and images. These proceed from the subconscious .... Unless there is compression nothing is expressed .... An emotion is implicated in a situation .... The work is artistic in the degree in which the two functions of transformation are effected by a single operation. ... Only by progressive organization of ‘inner’ and ‘outer’ material in organic connection with each other can anything be produced that is not a learned document or an illustration of something familiar (Dewey, 1934/1980, pp. 64-75).

In the chapters that follow we will see the functioning of the very process by means of which the emergence of new structural forms is made possible. The aforementioned progressive organization – a growth – makes up a philosophical site which, for Deleuze, as we have seen, consists of a multiplicity of planes including the non-philosophical, aesthetic, affective and social dimensions. The multiple interactions bring non-linearity in a continuous process of growth, create a

place where difference intervenes and becomes repeated – that is, folds onto itself – thus, due to the presence of multiple feedbacks, contributing to the self-organization of the process *per se*.

The Deleuzian subject is able to avoid being forever stuck in the infamous vicious circle because it is free to break things open: it lives by its philosophy – and philosophy as the creation of concepts is, for Deleuze, an ethical way of life – both putting theory into practice and forming new concepts contingent on the dynamics of experience. Martin Joughin, in his introduction to Deleuze’s book on Spinoza (1992), notices that for Deleuze,

the development of a “philosophy” is traced from some version of an initial situation where some term in our experience diverges from its apparent relations with some other terms, breaking out of that “space” of relations and provoking a reflection in which we consider reorientations or reinscriptions of this and other terms within a “virtual” matrix of possible unfoldings of these terms and their relations in time ... . Such a “philosophy” comes full-circle when the “subject” ... “orients” its own practical activity of interpretation, evaluation or orientation of the terms of experience within this universal matrix it has itself unfolded (Joughin in Deleuze, 1992, p. 9).

In this respect, what is authentic is first of all singular, here-and-now, that is particular and not general; yet it is something that “has to map out a range of circumstances” (Deleuze, 1995, p. 26), thus making individuation a matter of contingency depending on the broad range of varied situations and the collective assemblages embodying each experience. Individuation as always already becoming-other is bound to collective assemblages: people do not *become* “without a fascination for the pack, for multiplicity” (Deleuze and Guattari, 1987, p. 240), for the entangled lines of flight.

Everything, according to Deleuze, has “its geography, its cartography, its diagram. What’s interesting, even in a person, are the lines that make them up, or they make up, or take, or create. ... What we call a ‘map’, or sometimes a ‘diagram’ is a set of various interacting lines (thus the lines in a hand are a map” (Deleuze, 1995, p. 33). Such “topological and specifically cartographic” (Bosteels, 1998, p. 146) being is to be evaluated not in terms of rigid value-judgments but by means of spatial metaphors as a locus of situations and events.

Subjectivity exists as a territory and constitutes itself via the cartographic method; it engenders itself through multiple connections by mapping both “the psychic and the social” (Bosteels, 1998, p. 150) that is, the dimensions constituting the fold of both inside and outside: the inside *of* the outside. A map or diagram, in its function of linking discursive and non-discursive modes of expression, acts as a diagonal connection, the purpose of which is to “pursue the different series, to travel along the different levels, and cross all thresholds; instead of simply displaying phenomena or statements in their vertical or horizontal dimensions, one must form a transversal or mobile diagonal line” (Deleuze, 1988a, p. 22).

The connective line establishes “a bridge, a transversality” (Guattari, 1995, p. 23); we may even say that the universality of analytic philosophy becomes

subsumed by transversality: in this respect, philosophy gives way to cartography. The linear progression toward some transcendental end is replaced by non-linear enfolding and unfolding, and the authentic stable self – the rational and static, finally-beyond-doubt, *subject* of the Cartesian method, yet forever separated from the equally static world of *objects* – is transformed into a machinic multiplicity in a dynamic process of autoreferential and triadic relations between “the semiotic machine, the referred object and the enunciative subject” (Guattari, original French, in Bosteels, 1998, p. 167).

The paradigm of complexity, describing the relations enfolded in *the inside of the outside*, presupposes values contingent on experience as well as aligned with the process-structure of the complex dynamic system *per se* in which the aforementioned triad is immanent. Deleuze and Guattari make no distinction between man and nature: for them, humankind and nature are coextensive, and “what Deleuze gives us is thereby a philosophy ‘of’ nature, or rather a philosophy as nature” (Badiou, 1994, p. 63).

Ethics in such a naturalistic philosophy will be specified as a mode of existence rather than a pre-existing set of values, according to which human nature is supposed to be judged on the basis of how well it would fit the moral ideal of some abstract authentic self. It is evaluations, for Deleuze, and not prescribed values that characterize one’s ways of being or modes of existence:

The notion of value implies a *critical* reversal. ... The problem of critique is that of the value of values, of the evaluation from which their value arises, thus the problem of their *creation*. ... [W]e always have the beliefs, feelings and thoughts that we deserve given our way of being and our style of life. ... This is the crucial point; *high* and *low*, *noble* and *base*, are not values but represent the differential element from which the value of values themselves arise (Deleuze, 1983, pp. 1-2).

Instead of conforming to fixed moral criteria, subjectivation is effected by affects, and Deleuze-Spinoza’s system of affects replaces the strict and rigid moral code. The modes of existence are presupposed by

feelings, conduct and intentions. ... [T]here are things one cannot do, believe, feel, think, unless one is weak, enslaved, impotent; and other things one cannot do, feel and so on, unless one is free or strong. *A method of explanation by immanent modes of existence* thus replaces the recourse to transcendent values. The question in each case: Does, say, this feeling, increase our power of action or not? Does it help us come on full possession of that power? (Deleuze, 1992, p. 269),

or perhaps, we add, it may be rather a cause of hindrance?

One must do what one is capable of; it is the body that *can do*, but it’s also quite possible that *what the body can do* becomes cut off from active affections therefore diminishing one’s power of action thus hindering and blocking one’s process of subjectivation. Subjectivity is produced in a series of events and is continually reproduced – as if reborn – again and again upon “[t]he conjunctive synthesis of

consumption-consummation” (Holland, 1999, p. 36). The logical conjunction becomes in some sense an existential conjecture which expresses itself by means of the feeling-tone and not solely as a rational value-judgment.

There is no moral opposition of abstract terms, but deep ethical difference embedded in experience. There is no judgment as some pre-assigned transcendent value, but there are affects that create an immanent evaluation of singular situations in terms of “‘I love or I hate’ instead of ‘I judge’” (Deleuze, 1989, p. 141) combining therefore a fundamental critical aspect of philosophical thought with an ethical conception of action saturated with noble, that is, transformative, energy.

The dynamic character of a nomadic subject in terms of becoming-other is to be understood as a distribution along various planes, or a field of transversal lines going, by definition, in multiple directions. The distributive property inherent in subjectivity makes the notion of an essential human nature a false problem; instead it is an event that functions as a unit of analysis. Event constitutes the aforementioned “line of becoming ... [which] produces a shared deterritorialization” (Deleuze and Guattari, 1987, p. 293) thus implying a plurality of meanings ascribed to subjectivity, which is functioning at any given moment as an integral part of the total system.

Each concept, as we said earlier, exists in a triadic relationship with percept and affect: we do “need all three to *get things moving*” (Deleuze, 1995, p. 165; Deleuze’s italics). These dynamic moving forces, “whether perceived or presented in imagination” (Dewey, 1916/1924, pp. 152-153) breathe life into philosophy. Becoming-other is a series of real-life experiential events. Deleuze’s multiple becomings happen “‘between’, [they are] in the middle, adjacent” (Deleuze, 1987, p. 30). These are the features that seem to be rhizomorphic, paraphrasing Deleuze, with the Deweyan-based naturalization of epistemology and education.

John Dewey, with respect to education, has identified the aforementioned moving forces with the idea of *interest*, the latter representing a *connection* in the sense of an engagement of the self with the world of objects. As such, the word *interest* suggests – etymologically, and as noted by Dewey (1916/1924, p. 149) – what is always in-between, similar to the Deleuzean conjunction *and*. To be of interest, for Dewey, is equivalent to being “‘between’ the agent and his end” (Dewey, 1916/1924, pp. 149-150), and one way of arousing interest is by bringing about a sense of connection, therefore

What [a person] gets and gives as a human being, a being with desires, emotions and ideas, is not external possessions, but 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).

Coincidentally, Deleuze’s last work, completed shortly before his death, was entitled *Immanence: A Life*; “life” as a philosophical concept having both ontological and ethical connotations. It is the philosophical thought as creative, “that would *affirm* life instead of a knowledge that is opposed to life. Life would be the active force of thought, but thought would be the affirmative power of life ...

## CHAPTER 1

Thinking would then mean *discovering, inventing, new possibilities of life*" (Deleuze, 1983, p. 101). Because ethics, for Deleuze, is distinguished from morality, the latter tending to substitute transcendental values for the immanent ethical criteria that serve to evaluate various modes of existence, no mode of existence, or any newly created possibility of life, is to be judged so that in all possibility it might lead to a devaluation of real life for the sake of some abstract higher values.

For Deleuze, any mode of life is organic and vital by definition, and therefore good in the sense of its potential power to transform itself and, as a result, "to open opportunities – never to close them" (Noddings, 1993a, p. 13). New possibilities of life means multiplying the connections in practice; respectively, "those connections open doors more effectively and naturally than the forced feedings of theories" (Noddings, 1993a, p. 15) in conformity with some universal principles. Deleuze's whole philosophical project, as he himself indicated (Deleuze, 1995), was vitalistic and devoted to inquiry into events and signs. Referring to Proust's work on signs and reading him from the perspective of triadic logic of relations, or semiotics, Deleuze says:

[W]e see the pieces of Japanese paper flower in the water, expanding or extending, forming blossoms, houses and characters. ... Meaning itself is identified with this development of the sign as the sign was identified with the involution of meaning. So that Essence is finally the third term that dominates the other two ...: essence complicates the sign and the meaning; it holds them *in complication*. ... It measures in each case their relation, their degree of distance or proximity, the degree of their unity (Deleuze, 2000, p. 90).

The concept of unity, as used by here Deleuze, does not mean any unification or totality but is presented in its sense of one more fragment among others: it is "a final brushstroke" (Deleuze, 2000, p. 167).

The theory of signs, or semiotics, would remain just a theory, that is, will stay meaningless, without relation in practice between "the sign and the corresponding apprenticeship" (Deleuze, 2000, p. 92), that is, one's engaging in active reading and interpreting of the signs. Therefore – and due to the sign's having an "increasingly intimate" (Deleuze, 2000, p. 88) relation with its implicit and implicated meaning – "[we] are wrong to believe in truth; there are only interpretations" (Deleuze, 2000, p. 92). Accordingly, Boisvert (1998) who addressed the reconstruction of experience by Dewey, pointed to an affinity between Dewey's articulation of experience as qualitative, multidimensional and inclusive, and Proust's famous *madeleine* which becomes "a nexus of meaning far surpassing, 'infinitely other' as Dewey puts it, the description in terms of sense data" (Boisvert, 1998, p. 15).

Contrasting Proust's allusion to *petite madeleine* as a sign in the present that awakens the memories of the past with the classical empirical method of identifying the basic building blocks of experience, Boisvert asserts the similarity between the effects of signs and the pragmatists' starting point for the



reconstruction of experience. He stresses that ordinary human experience is always marked by an affective dimension which has been seemingly stripped away “in the reductive empiricism espoused by Russell” (Boisvert, 1998, p. 15).

By defining his philosophical method as transcendental empiricism, Deleuze, similar to Dewey, positioned the philosophical point of departure in the ordinary experiential situation: never mind the philosophical thinking eventually transcending any given experience, or growing “beyond ordinary, lived experience, that is where it must begin” (Boisvert, 1998, p. 16). Any interaction culminates for Deleuze, as well as for Dewey, in a mode of communication, which uses expressive language and shared meanings. The expressive form of language rather than a statement uttered in propositions is itself a precursor for a new experience, for “a continual beginning afresh” (Dewey, 1916/1924, p. 417).

The diagrammatic mode of description, by bringing in the outside, establishes a resonance between inside and outside as two coresonating systems. Because of the pre-personal, a-subjective and collective, character of the unconscious and the affective dimension enfolded in subjectivity, the modes of subject-formation as becoming-other presuppose what Deleuze dubbed subjectless individuations, the main characteristic of which, rather than being a concept, is an affect. Asserting the presence of affect inscribed in such subjectivities, Deleuze emphasizes its passionate quality: “perhaps passion, the state of passion, is actually what folding the line outside, making it endurable, knowing how to breathe, is about” (Deleuze, 1995, p. 116).<sup>7</sup> For Dewey, too, thought and non-thought, reason and passion, emotion and cognition, exist in the same collective assemblage as for Deleuze: no “emotional, passionate phase of action can be eliminated on behalf of bloodless reason. More ‘passions’, not fewer, is the answer” (Dewey quoted in Holder, 1995, p. 184).

We will see in the following chapters the significance of Deleuze’s empirical method as overcoming the reductionism of classical empiricism by virtue of Deleuze’s approach sharing the pragmatic, Peircean and Deweyan, legacy.



## CHAPTER 2

### BECOMING-SIGN

The word *sign* is ambiguous. While traditionally defined as something that stands for something else, the notion of a sign as used in this chapter follows Charles Sanders Peirce's triadic conception so as to underline the dynamic character of the sign-process. A sign can be anything that stands to somebody, a sign-user, for something else, its object, in some respect and in such a way so as to generate another sign, called its *interpretant*. In the broadest sense, Peirce used the word *representamen* to designate a sign, in agreement with the word *representation* describing *both* the dynamic process *and* the terminus of such a process, by which one thing stands for another.

Gilles Deleuze's philosophical thinking was influenced by Peirce's pragmatism and his triadic logic of signs or semiotics. Peirce's pragmatic maxim establishes the criterion for meaning as production of real effects: "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). This chapter focuses on the pragmatic aspect of the concept of intuition asserting its place in the cognitive, that is inferential, process. The structure of this chapter, consistent with the spirit of Peirce's triadic semiotics, will be three-fold.

As a point of departure, I revisit Nel Noddings' monumental work on intuition in education (Noddings and Shore, 1984), that has enjoyed a recent revival by being chosen as an educational classic. I am going to expand the boundaries of the concept by drawing from selected excerpts in the works of Dewey and Deleuze and asserting the similarity between the two based on their analogous approach to formal logic as semiotics. The locus of this chapter is, specifically, Peirce's notion of abductive inference, and I suggest hereafter a novel model of abduction and connect it with the concept of intuition for the purpose of exploring the possible educational implications of both "Firstnesses".

While in the current philosophy of science discourse abduction is usually taken in one sense only, as an inference to the best explanation; this chapter will posit abductive inference as open to interpretation in psychological and, quite possibly, naturalistic terms. Peirce sometimes used abduction interchangeably with retroduction. What he meant however is that retroduction is a process encompassing abduction. This chapter, secondly, will propose a model of such a retroductive process. For this purpose I will employ a mathematical formalism constructing a graph, or a *diagram*, on the complex plane.

At the conclusion of this chapter I would like to suggest a possible solution, derived from Deleuze and Guattari's *a-signifying* semiotics, for the so-called

learning paradox. While paradox *per se* cannot be overcome, the very existence of what common sense considers a paradox is a feature of triadic semiotics based on a logic of non-non-contradiction. What seems to be a paradox is in fact the Firstness of intuition that is always already present within the Thirdness of cognition. As such, it is inherent in the semiotic consciousness and is a precondition for meaning production in the learning process.

At the outset, since I have already used the terms, I want to briefly address three Peircean categories. Logic, for Peirce, “is a science of the necessary laws of thought, or, better still (thought always taking place by means of signs), it is a general semeiotics, treating not merely of truth, but also of the general conditions of signs being signs” (Peirce CP 1.444). Peirce’s pragmatism, as such, blends logic and psychology and allows for the presensory and preconscious – not limited to sense-data – apprehension of reality upon which, despite its being necessarily vague, people are prepared to act.

The triadic nature of relations between signs leads to Peirce’s classifying 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).

Firstness is quality, possibility, freedom. Secondness, as a relation of the First to the Second, is of opposites, physical reality, billiard-ball forces, rigid deterministic laws, direct effect, action and reaction. Thirdness relates seconds to thirds; it is synthesis, communication, memory, mediation. It is the *potentia* of Thirdness that connects what is possible with the actual. When Peirce conceived of signs in terms of images, that is as an extra-linguistic category, he described them in numbers which are cardinal and not simply ordinal or sequential, like first, second or third. Therefore, “there are two in the second, to the point where there is a firstness in the secondness, and there are three in the third” (Deleuze, 1989, p. 30).

As for intuition, it would be classified, in Peircean terms, as a precognitive quali-signification, that is the qualitative immediacy of experience. The immediate Firstness – a sort of premodern natural attraction – was, together with the Thirdness of mediation, left out as insignificant by the “pure reason” of modernity and substituted by the dualistic sin-signification and instrumental rationality based on the conventional logic of excluded middle.

Noddings and Shore (1984), describing intuitive modes, are primarily interested in *how* intuition is involved in educational processes. They suggest four major features that serve to roughly distinguish an intuitive mode from an analytic, or conceptual, activity. The relation between the two remains complementary, as “it is impossible to isolate the two meticulously and discretely” (Noddings and Shore, 1984, p. 69). They are irreducible to each other but exist in the reciprocal

presupposition similar to Gilles Deleuze's triadic matrix of percepts, affects and concepts that have already been briefly addressed in Chapter 1: *Becoming-other*.

Noddings notices how Poincare, in his discussing mathematical creativity, affirmed the role of affect, or "this special sensibility" (Poincare, quoted in Noddings and Shore, 1984, p. 66), in producing intuition<sup>8</sup>, so as to "bring them [novel concepts] into consciousness" (Noddings and Shore, 1984, p. 66). The four aspects characterizing the intuitive modes are, according to Noddings and Shore, the following:

- involvement of the senses, that is an immediate contact with the object;
- commitment and receptivity, that is letting the object act upon the subject, so that subject becomes *affected*, almost seized, by the object;
- a quest, or desire, for meaning which is "realized in seeing, creating a picture in our minds, understanding" (Noddings and Shore, 1984, p. 81) and insight (*insight*);
- and a productive tension between subjective certainty and objective uncertainty.

Sure enough, an intuitive mode involves using concepts, but the subjects return "again and again to the object ... [allowing] contact with the object to direct their thought, whereas analytic thinkers are directed by concepts they have attached to the object" (Noddings and Shore, 1984, p. 70) *a priori*.

The aforementioned tension – created by perplexity, a curious fact, a problematic situation, in short, the interference of what Deleuze dubbed *difference* – enables the initial distance to be bridged by intuition potentially capable of making the strange familiar.

The situation is problematic, that is, it involves tension and conflict, because it encounters the otherness, or Secondness of "reaction against my will" (Peirce CP 8.144) due to the intervention, sometimes beyond one's awareness of this action, of the brute facts of human experiences. "[T]he surprising fact ... is observed" (Peirce CP 5.185) – and an inquiring mind makes a first step toward apprehending the experience by abduction, a peculiar logic of discovery, bordering on as yet uneducated (if education is taken conventionally) guess.

Despite being initially pre-conscious and necessarily vague, the abductive inference, according to Peirce, belongs to objective logic understood broadly as the "laws of thought, ... thought always taking place by means of signs" (Peirce CP 1.144). The causal influence embedded in the semiotic process of cognition becomes indirect and moderated by means of inclusion of the third category that breaks down the direct dyadic cause-effect connection.

Nonetheless the formal, albeit vague, rule of abduction enables mind to reason from the premise to the conclusion; such an inference being described by the following statement: if A is B, and C can be signified by B, then maybe A is a sign of C. The interpretation is triggered by the Firstness of abduction which, tending towards the perceptual judgment, is a hypothesis-bearing statement that asserts its conclusion only conjecturally; yet, according to Peirce (CP 5.189), there is a reason to believe that the resulting judgment, under the circumstances, is true. Peirce (CP 5.184) was adamant that there is no sharp line of demarcation between abduction and perceptual judgment: one shades into the other along the inferential process.

The given premise must entail some empirical consequences; the explication of the initial perception is achieved by analogical reasoning which unfolds into inferences to the would-be consequences of abductive conclusions eventually leading “to a result indefinitely approximating to the truth in the long run” (Peirce CP 2.781), asymptotically merging into the synthetic inference in the process.

Peirce emphasized the role of diagrammatic reasoning – and we remember from the preceding chapter the importance allotted by Deleuze to the concept of diagram *per se* – saying that “passing from one diagram to the other, the [reasoner] ... will be supposed to see something ... that is of a general nature” (Peirce CP 5.148), hence contributing to making one’s ideas clear. The purpose of such a diagrammatic mode of expression was indeed to “depict thought’s very movement, its processual character, in terms of interconnecting lines, schemes, figures, abstract mappings. In fact [Peirce] believed that all thought is sign process and hence it is capable of being presented diagrammatically” (Merrell, 1995a, p. 51).

The epistemic process, for Peirce, means rejection of the Cartesian notion of arriving at propositions that mirror reality. The whole notion of a proposition, whose subject designates reality and whose predicate describes the essence of the said reality, is transformed by Peirce into interpretation of reality and living it out experientially: mimesis turns into semiosis. The abductive guess as a matter of a First borders on intuition; an intuitive knowledge traditionally being a synonym for immediate knowledge. Intuition conventionally has been considered to be the initial perception of an object. For Peirce, however, there is no immediate, that is unmediated, knowledge: all cognition is mediated by signs in a process of semiotic inquiry. Perception differs not in kind but only in degree from other forms of human knowledge, and it is precisely an intuition that enables “perception [to turn] inward upon the objects of conception” (Noddings and Shore, 1984, p. 47).

The very etymology of the word confirms this: to *in-tuit* means to learn from within, yet “the parish of percepts ... [is] ... out in the open” (Peirce CP 8.144) of the experiential world. The inside is not opposed to the outside, instead the two are mediated by Thirdness, which folds them – very much in accord with Deleuze’s aforementioned conceptualizations – into the inside *of* the outside. Affirming the continuity of consciousness, Peirce stressed its temporal character. The cognitive, that is inferential, process of interpretation is a series of thought-signs, and the meaning of each thought becomes understood in each subsequent thought, creating a process of unlimited semiosis.

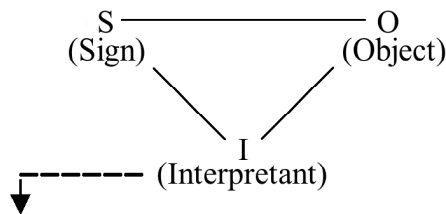
No thought is ever instantaneous because it needs an inferential stretch (cf. Dewey, 1925/1958 in the following chapter) for its own interpretation. Yet the immediacy of Firstness is always presented in an instant and, as Firstness, it is *had* prior to every mediative Thirdness, making inference appear to border on association and guessing. Peirce, as long ago as 1868, stated that cognition exists only

in the relation of my states of mind at different instants .... In short, the Immediate (and therefore in itself unsusceptible of mediation – the Unanalyzable, the Inexplicable, the Unintellectual) runs in a continuous

stream through our lives; it is the sum total of consciousness, whose mediation, which is the continuity of it, is brought about by a real effective force behind consciousness (Peirce, 1955, pp. 236-237),

enabling the recursive process of what Noddings and Shore (1984) call the dual representation.

Every sign is subject to interpretation by a series of subsequent thought-signs, and the whole triad enveloping the “the relation-of-the-sign-to-its-object becomes the object of the new sign” (Sheriff, 1994, p. 37), according to the following graph (Sheriff, 1994, p. 35):



*Figure 1. A triadic relation*

Signs reiterate, they become signs of signs, or representations. As Peirce (CP 5.138) stated, “the mode of being of a representamen [... a sign] is such that it is capable of repetition”, that is, of creating sensible patterns. Yet, because every interpretant might be a precursor to a new meaning, different from the preceding one, the repetition is never the reproduction of the same, but, as Deleuze (1994a) put it, the repetition of the different.

For Peirce, the concepts literally take part in the reality of what is conceived, implying holism and a sense of auto-referentiality between the inner and outer realities. As a result of multiple interrelations, signs move from one to another, they grow and engender other signs because the triadic logic leads to signs always already becoming something else and something more, contributing – in the process of their growth – to human development, becoming, and the evolution of consciousness. A hypothetical idea constitutes what Peirce called a psychological ground for a habit that carries a flavour of anticipation: it “is already determinative of acts in the future to an extent to which it is not now conscious” (Peirce CP 6.156). For Peirce, mind as Firstness has to be entrenched in habits (as Thirdness) so as to congeal, as he says, into matter (Secondness). It is mind “hidebound with habits” (Peirce, 1955, p. 351) that we call matter.

Because “consistency belongs to every sign, ... the man-sign acquires information and comes to mean more that he did before” (Peirce, 1955, p. 249). The value of knowledge is in its practical import, that is, the way we, humans, will act, think, and feel – in short, assign meaning to our own experience – as the pragmatic effect of the said knowledge. The meaning and essence of every conception depends, in a pragmatic sense, on the way the latter is applied: it “lies

in the application that is to be made of it” (Peirce CP 5.532). Pragmatic maxim presupposes the discovery of meaning notwithstanding that the “meaning lurks perpetually in the future” (Merrell, 1992, p. 189).

Everything is a sign: the whole universe, for Peirce, is perfused with signs; yet “nothing is a sign unless it is interpreted as a sign” (Peirce CP 2.308) by means of triadic relations leading to each successive sign having become an interpretant for the preceding one. What seems to be a paradoxical statement is derived from the nature of the pragmatic method itself. Abduction does seem to function instantaneously, not because there is no temporal interval of inference, but because the mind is unaware of when it begins or ends. The result of abductive inference is the guess proffered or the hypothesis drawn.

If reasoning from premises to conclusion is considered to be either deductive, or inductive, or fallacious, then an abductive guess understood as an inference to the best explanation, that expresses merely some likelihood in reasoning, would seem to represent a fallacious kind, indeed, and is considered as such within the analytic discourse. In a Peircean sense, however, abduction suggests that something *might* possibly be the case (Peirce CP 5.171). For Peirce, what is real cannot be in any way reduced to the actual, in fact “the will-be’s, the actually-is’s and the have-been’s are not the sum of the real. They only cover actuality. There are besides would be’s and can be’s that are real” (Peirce CP 8.216), such *would-be-ness* constituting the realm of the virtual, however still *semiotically real*, world. The semiotically real world therefore includes possibilities “articulated” by means of abduction.

Peirce, describing the structure of perceptual abduction, noted 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” (Peirce CP 8.64-65). Intuition, albeit achieving an intellectual knowledge, the *nous* of the ancients, is not *of* something but *is* something; as an epistemic pragmatic method, it is the very process of *knowing*.

Rather than being a “ground for knowledge, ... intuition is a *way* of knowing” (Noddings and Shore, 1984, p. 47), and its immediacy as such is indeed questionable: it is *quasi*-immediate tending towards the perceptual judgment as a kind of “mediated immediacy” (Peirce CP 5.181), or a limiting case of abductive inference, an educated guess, a hypothesis-making that must precede the hypothesis-testing. Thus Firstness in Thirdness is being tested and deliberated upon during the continuous interplay of all three forms of inference, including induction and deduction, although “the intuition [*per se*] does not deduce; it does not move patiently through strings of logical propositions” (Noddings and Shore, 1984, p. 133): instead, it jumps, leaps, and desires.

For Peirce, a sign “in order to fulfil its office, to actualize its potency, must be compelled by its object” (Peirce CP 5.554), as if striving to appear in a mode of Thirdness and become available – because of the established relation, or relevance – to integration into consciousness. An abductive leap thus represents a selective, even if seemingly unconscious, choice, that is, an interference of difference that



would indeed make a difference. Peirce emphasized the feeling-tone of abduction saying that every abductive inference involves a particular emotion: “the various sounds made by the instruments in the orchestra strike upon the ear, and the result is a peculiar musical emotion .... This emotion is essentially the same thing as a hypothetic inference” (Peirce CP 2.643).

An unconscious inference functioning abductively as intuition is the cognitively unmediated, as Firstness, access to knowledge. The knowledge organization that proceeds in a habitual way becomes “fully accepted” (Peirce CP 7.37) and as such “tends to obliterate all recognition of ... premises from which it was derived” (CP 7.37): the inferential steps *per se* stay out of consciousness, we are not aware of them.

The preconscious state of mind, as manifested in the fascination of children with ... Winnie the Pooh, and most especially, Alice’s adventures – also a favorite pastime of logicians, mathematicians, and physicists – attests to their import to “primitive” perceptual and conceptual modes, keenly picked up by philosopher Gilles Deleuze (Merrell, 1996, p. 141).

Deleuze, in his move against the Cartesian method, speaks of *paideia* stating that for Greeks thought is not based on a premeditated decision to think. Deleuze considered such a thought-non-thought – functioning semiotically in its aforementioned mode of Firstness – to be “the presentation of the unconscious, not the representation of consciousness” (Deleuze, 1994a, p. 192), ultimately in a need of Thirdness so that to integrate that which is still *un-conscious in and of itself*.

Therefore thought thinks “by virtue of the forces that are exercised on it in order to constrain it to think. ... Thinking, like activity, is always a second power of thought, [and] not the natural exercise of a faculty. ... A power, *the force of thinking*, must throw it into a becoming-active” (Deleuze, 1983, p. 108; Deleuze’s italics). The interplay between the preconscious and conscious states, the change from the Deleuzian non-thought to thought and vice versa, is effectuated by forces that play the role, in Peirce’s words, of “inward [or] *potential* actions ... which somehow influence the formation of habits” (Peirce CP 6.286).

Recognizing the narrow and limited approach to education, Deleuze calls for education of the senses (cf. Poincaré’s subtle sensibility quoted in Noddings and Shore, 1984) by means of exploring the faculties of perception not limited to the data of pure sense-impressions. The presence of the line of flight, which is capable of transversing a “fundamental distinction between subrepresentative, unconscious and aconceptual ideas/intensities and the conscious conceptual representation of common sense” (Bogue, 1989, p. 59), characterizes Deleuze’s empirical – and considered by him to be at once wild and powerful – method of transcendental empiricism, the name itself implying the paradoxical contradiction that appears to be present in logic as semiotics.

It is the very presence, that is, the included middle of the transversal link that characterizes Deleuze’s method, which does not rely on absolutes but aims “to bring into being that which does not yet exist” (Deleuze, 1994a, p. 147), hence the name transcendental. Deleuze purports to show that which is as yet imperceptible

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by means of laying down a visible map of some invisible territory or, in other words, creating a mediatory space between discursive and non-discursive formations. The very “interstice ... between seeing and speaking” (Deleuze, 1988a, p. 87) is the place where thinking occurs. In this respect Deleuze’s method accords with John Dewey’s naturalistic emergentism, and I have already briefly introduced this notion. Holder (1995), referring to Dewey’s pragmatic epistemology and his method of inquiry, expresses the core of the matter nicely in his description of an event that “can be given without reference to the transcendental .... In effect, higher mental processes are said to be *continuous* with lower ones (e.g. thinking with the biological pattern of need and search) but such ‘higher’ processes are *not* reducible to lower ones (e.g. thoughts are not reducible to brain states). See Dewey’s *Logic: The Theory of Inquiry*, (New York: Henry Holt and Company, Inc. 1938) pp. 18-19, 23” (Holder, 1995, p. 190f).

For Deleuze, signs that act in the world engender thought:

Something in the world forces us to think. This something is an object not of recognition but a fundamental “encounter” ... It may be grasped in a range of affective tones: wonder, love, hatred, suffering. In whichever tone, its primary characteristic is that it can only be sensed. In this sense it is opposed to recognition (Deleuze, 1994a, p. 139).

This is an intuition, a necessary condition for the practical production of meaning, or what Deleuze (1990) called the logic of sense – or *sens*, that is also meaning, in French – therefore addressing, in fact, the theory of meaning. Such is the Firstness, which is described by Deleuze as the “quality of a possible sensation ... [which] is felt, rather than conceived” (Deleuze, 1986, p. 98). This specific logic that contains feelings and affects is, for Deleuze, “inspired in its entirety by empiricism. Only empiricism knows how to transcend the experiential dimension of the visible without falling into Ideas, and how to track down, invoke, and perhaps produce a phantom” (Deleuze, 1990, p. 20) as an ultimate expression of meaning.

Deleuze’s method remains empirical by virtue of the object of inquiry regarded as real, albeit subrepresentative, experience. Yet, it is also transcendental because the very foundations for the empirical principles are *a priori* left outside the common faculties of perception. In this respect transcendental empiricism purports to discover conditions that exist beyond the actual commonsensical experience. The Deleuzian object of experience is considered to be given only in its tendency to exist, or rather to *subsist* in a virtual, as yet non-representative, state.

Those virtual tendencies are regarded as capable of constituting a sufficient reason for the actual; while the actual per se is not constituted but becomes *constructed* by virtual tendencies. The actualization of the virtual always precedes any physical effect appearing out of a cause due to the fact that the very nature of any “thing” is, according to Deleuze, the expression of tendency. Although tendencies, for Deleuze, elude spatial representation, they are real, not merely possible – precisely because they have the efficiency – *virtus* – of becoming actualized in the process called by Deleuze differentiation, the term signifying

the character of the process as described by the double difference, or the derivative of the second order.

While the world of mind, for Deleuze, is structured, and ideas are regarded as intensive multiplicities or systems of multiple differential relations, in which differentiation (with a “t”) is inherent, structures themselves have a dynamical character. This dynamics is described in terms of a continuous process, called differentiation (with a “c”), by means of which virtualities actualize themselves. Because virtualities exist as tendencies, prior to the appearance of any effect, they define the immanence of the transcendental field.

According to Deleuze’s ontological interpretation, tendencies per se cannot be represented, they cannot be thought of in spatial terms – otherwise they turn into discrete multiplicities, betraying the notion of multiplicity as intensive and continuous. For Deleuze, the very spirit of experimentation rejects the binary opposition between universals and particulars (cf. Dewey, 1925/1958, p. 48) and combines in itself mysticism with the mathematicism of concepts: for example, Leibniz’s infinitesimal calculus becomes compatible with philosophy as a *virtual* form of thinking. In this respect, the mathematical form cannot be taken away from natural laws; the latter are models and not just “mere expressions of linguistic truths” (DeLanda, 2002, p. 127).

It is through different/ciation, the term signifying the processual character of the structures of intensive multiplicities, that actualization takes place. The concept of different/ciation as such invokes the notions of both spatial and temporal dimensions. Deleuze’s poststructuralist conceptualization in terms of space-time thereby accords with Noddings’ and Shore’s constructivist view on intuition and their referring to the pure intuition of space in addition to the intuition of time presented as successive states. The relational dynamics creates a connective link across a subject-object divide because “space-time ceases to be a pure given in order to become ... the nexus of differential relations in the subject, and the object itself ceases to be an empirical given in order to become the product of these relations” (Deleuze, 1993, p. 89) when brought to consciousness, that is, actualized.

The dynamic character of space-time is expressed in the concept of duration, which in Deleuze’s terms would be described as intensive multiplicity, an open-ended whole. As embodying duration, Deleuze’s method therefore “seems to be patterned after Bergson’s intuition” (Boundas, 1996, p. 87). Intuition, or access to knowing by means of disjunctions generated by virtual tendencies in the process of actualization, is taken almost literally: to learn from within means to be able to distinguish and differentiate.

Such apprehension of reality seems to agree with the Peircean notion of functionally indubitable, albeit presensory and preconscious, data that are derived from a shared layer of experience. Intuition, functioning in a mode of an indefinite integral of implicit different/ciations, enables the reading of signs, symbols and symptoms that lay down the dynamical structure of experience. Intuition works, “it presupposes an impulse, a compulsion to think which passes through all sorts of bifurcations, spreading from the nerves and being communicated to the soul in

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order to arrive at thought” (Deleuze, 1994a, p. 147) therefore, in a pragmatic sense, producing an effect, or meaning, or *sens*.

And the plane of immanence becomes literally constructed: “immanence is constructivism, any given multiplicity is like one area on the plane” (Deleuze, 1995, p. 48). That’s how Deleuze and Guattari defined the plane of immanence which, for them, was not in any way reduced to reason alone:

Precisely because the plane of immanence is prephilosophical and does not immediately take effects with concepts, it implies a sort of groping experimentation and its layout resorts to measures that are not very respectable, rational, or reasonable. These measures belong to the order of dreams, of pathological processes, esoteric experiences, drunkenness, and excess. We head for the horizon, on the plane of immanence, and we return with bloodshot eyes, yet they are the eyes of the mind (Deleuze and Guattari, 1994, p. 41),

implying the awakening of the inner eye, posited by Noddings and Shore (1984) as opposed to the cold, dispassionate and unblinking gaze of the epistemological subject, the Deweyan spectator.

Thinking of this sort, for Deleuze, constitutes “the supreme act of philosophy: not so much to think THE plane of immanence as to show that it is there, unthought in every plane, and to think it in this way as the outside and inside of thought ... – that which cannot be thought and yet must be thought” (Deleuze and Guattari, 1994a, pp. 59-60). The virtual, which cannot be thought, becomes actual, and as such must be thought, when constructed by means of multiple “differentiations of an initially undifferentiated field” (Deleuze, 1993, p. 10), the latter seemingly analogous to that pre-conscious and tacit “knowledge” which, albeit constituting the aforementioned shared layer of experience, would nevertheless remain a contradiction in terms within the boundaries of formal logic.

Such a field, however, must exist or better, as Deleuze says, *subsist*, in its virtual mode of existence, in order to bring the Firstness of abduction into being, to initiate the process of that what might be, as Firstness, confirmed by that what is – Secondness, or otherness, of Peircean brute facts of experience – and to find an indirect, yet quasi-causal, conclusion in the Thirdness of that which would be, providing certain circumstances will have been met.

Deleuze describes the transcendental field as a pure stream of a-subjective, impersonal and immediate consciousness without object or self. The traces of the self in this field are non-conscious, and in order to be captured and conceptualized – through *self*-reflection, indeed – they are to be staged, produced and performed in the production-plant of multiplicities by means of dual representation. Such a semiotic turn is effected by, as we said earlier, the presentations of the unconscious that may be transversally – that is, via the relation of Thirdness which, by definition, always already contains the Firstness in itself – linked with the representations of consciousness.

While not all virtualities may become actualized in the present, they are nevertheless real. Hardt (1993) points to a very subtle and nuanced connection of

Deleuze's thought to Scholastic ontology. In Scholastic terminology "virtual" does mean the ideal or transcendental, yet not in any way abstract or just possible: it is maximally real, *ens realissimum*. For Deleuze, as we said in the preceding chapter, it is a line and not a reference point that serves as a basic category: the movable line of flight is real, it is in fact always out there, in the world, "only we don't see it, because it's the least perceptible of things" (Deleuze, 1995, p. 45).

For Peirce, despite the fact – or perhaps due to the fact – that the meaning created by diagrammatic thinking is not actual but "altogether virtual ... [and always contained] not in what is actually thought, but in what this thought may be connected with in representation" (Peirce CP 5.289), it is nevertheless, and betraying the principle of non-contradiction, maximally real because of the possibility of such a thinking being capable of producing real effects in terms of consequences, or "practical bearings" (Peirce CP 5.402) in accord with Peirce's pragmatic maxim.

In the framework of Deleuze's philosophy, thinking takes place in the disjunction – that is, negativity or a cut – as has been noted in the first chapter – at a structural level – yet, in its functional sense, it performs a constructive, conjunctive role of a positive synthesis. The leap, the breakthrough, the very differential, establishes a line of flight; this line "upsets being" (Deleuze, 1995, p. 44), yet along this very line "things come to pass and becomings evolve" (1995, p. 45). These are signs in the process of becoming-other that express diversity and multiplicity constituted each and every time by a movable borderline described by the conjunction "and", that is the diagonal, or indirect – indeed, transversal – connection.

The fundamental Deleuzian notion of difference and repetition (Deleuze, 1994a) is seen in the production of meaning, or the constructive process for which of course a qualitative multiplicity – that perhaps may be expressed as *a set* in mathematical terms – becomes the necessary and natural state of affairs. Construction precedes the drawing of dyadic logical conclusions in terms of if-then propositions, yet the former itself is embedded in the triadic logic of relations.

The meaning as produced or *constructed* (we remember that, as Deleuze says, immanence after all is constructivism) is then equivalent to the possibility "to construct logic from the basic intuitive act ... [(so, we might say, 'intuitive') that we scarcely notice when it is being used] ... of making a distinction and two fundamental arithmetical acts: (1) making a mark to signify the distinction and (2) repeating the mark" (Noddings and Shore, 1984, p. 51; see also Merrell, 1995b). It is multiple bracketing {...{...}...} that represents the construction of concepts analogous to the infinite number series as illustrated by Figure 2.

For Deleuze, because of the symbolic conjunction "and ... and ... and" (Deleuze, 1995, p. 45), a constructive process enters into meaningful organization: each "and" is a pure relation which, as a sign-event in its own in-between-ness, acts in the mode of a distributed marker of a new breakthrough, "a new threshold, a new direction of the zigzagging line, a new course for the border" (Deleuze, 1995, p. 45). Respectively, because of the "old" subjectivity passing through the threshold along the line of flight, a new one – contingent on experiential

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encounters – is capable of coming into being, as “always a temporary and unstable effect of difference” (Grossberg, 1994, p. 13), such a *difference*, as we will have seen in the following chapter, being inscribed in the experience itself.

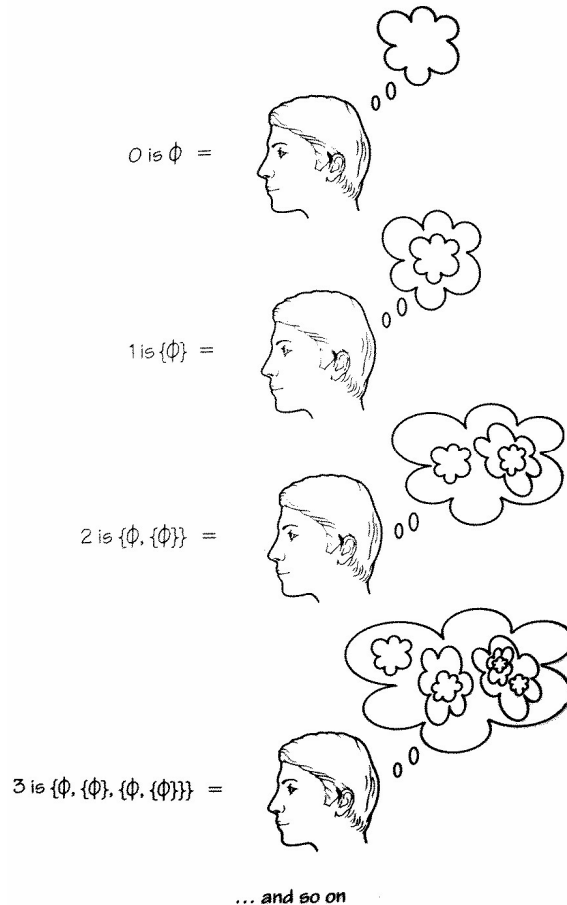


Figure 2. (from Barrow, 2000, p. 160)

John Dewey, writing more than half a century earlier than Deleuze and posing the question of whether reality possesses practical character, also acknowledged the existence of “a peculiar condition of differential – or additive – change” (Dewey, 1908/Hickman and Alexander, 1998, 1, p. 131), the peculiarity appearing because of the present condition having both emerged from the prior state and related to the consequent, yet so far absent, state of affairs as its own constituent

part, a condition of possibility. The additive change is by necessity in-between: “it marks the assumption of a new relationship” (Dewey, 1925/1958, p. 222) that might lead to new properties appearing as a consequence of the said relationship.

Stressing the difference between a pragmatic inquiry and traditional epistemology, the former focusing on “*the relation to one another of different successive states of things*” (Dewey, 1908/Hickman and Alexander, 1998, 1, p. 133; Dewey’s italics) – Deleuze would’ve said, a series – Dewey considers such a relation to be a powerful substitute for the eternal question of “how one sort of existence, purely mental, ... immaterial, ... can get beyond itself and have valid reference to a totally different kind of existence – spatial and extended” (Dewey, 1908/Hickman and Alexander, 1998, p. 1, 133).

For Dewey, as for Deleuze, reorganization of experience would include “a threshold (... or plateau), ... waxings and wanings of intensity” (Dewey, 1925/1958, p. 313), that constitute a continuous process of adaptation and readaptation when “the old self is put off and the new self is only forming” (Dewey, 1925/1958, p. 245), which means, in Deleuze’s terms, becoming-other in the process of subject-formation.

All thinking and learning – or “reaching the absent from present” (Dewey 1991, p. 26) involves, for Dewey, the Deleuzian line of flight of sorts described by him as: “a jump, a leap, a going beyond what is surely known to something else accepted on its warrant. ... The very inevitability of the jump, the leap, to something unknown, only emphasizes the necessity of attention to the conditions under which it occurs” (Dewey 1991, p. 26).

This is simply Firstness, and not Secondness, because the occurring situation “calls up something not present to the senses” (Dewey, 1991, p. 75) which would have otherwise guaranteed and determined the direct action-reaction, stimulus-response, or cause-effect link. Incidentally, Dewey – similar to Deleuze – stressed the cardinal character of Peirce’s categories: “the matter of the experience gets generality because of co-presence of Firstness of total undivided quality” (Dewey, 1935/Hickman and Alexander, 1998, 2, p. 372; see also Garrison, 1999c, p. 682).

The key word for Dewey is *suggestion*, leading in all probability to a solution that would be merely possible, and the former’s “propriety ... cannot be absolutely warranted in advance, no matter what precautions be taken” (Dewey 1991, p. 75). The statement is as yet vague and tentative, that is, not even a statement in a strict sense: simply put, let X be such and such.

What Dewey in his analysis of thinking described as a pre-reflective state of mind, is a necessary condition arising from “the disturbed and perplexed situation” (Dewey, 1933/Hickman and Alexander, 1998, 2, p. 139) that calls for the momentous state of suspense (cf. Semetsky, 2000), that is an affective state filled with desire and uncertainty, and inherently open to imagination.

Imagination functions so as to create a vision of realities “that cannot be exhibited under existing conditions of sense-perception” (Dewey, 1991, p. 224); instead they constitute Peirce’s and Deleuze’s aforementioned virtual realities. Virtual, that is “the remote, the absent, the obscure” (Dewey, 1991, p. 224) – still, they are not imaginary but totally real and potentially amenable to a “clear insight”

(1991, p. 224). Such an “eagerness for experience” (Dewey, 1991, p. 30) contains in itself – in the shared and social world – “the germ of *intellectual* curiosity” (1991, p. 32; Dewey’s italics), because “to the open mind, nature and social experiences are full of varied and subtle challenges to look further” (Dewey, 1991, p. 33).

Experience is this *milieu*, using Deleuze’s term, that ensures that things are *had* prior to becoming known. It cannot be otherwise in the world of *semiotic* reality where experience is not shut off from nature thereby creating the dualistic split but “is *of* as well as *in* nature” (Dewey, 1925/1958, p. 4a). It is the totality of experience that emits signs, which by necessity exceed any pre-given system of significations. Conscious decision-making will be deferred for a moment because the state of mind is as yet pre-reflective: “we *de-fer* conclusion in order to *in-fer* more thoroughly” (Dewey 1991, p. 108). We remember that Deleuze, asserting the production of subjectivity as unfolding and its reworking through knowledge and power, said that such a deferment would make a line effectively fold into a spiral.

Folding into a spiral means organization at a new level of complexity, therefore more refined inference and more complex meaning and understanding. Inference would have occurred at a later stage, and at a higher – indeed more thorough – level, even if the stopover, that is the abductive leap, is taking place at the limits of our awareness hence it is barely intentional. Human consciousness, the very stuff of subjectivity, thus acquires a derivative status as a result and an outcome, a merely “eventual function” (Dewey, 1925/1958, p. 308) and not the reason behind the total process: mind as a whole is greater than the sum of its *cogito* parts.

As for Peirce, he considered consciousness to be a vague term and asserted that “if it is to mean Thought it is more without us than within. It is we that are in it, rather than it in any of us” (CP 8.256), quite in accord with the definition of the fold, posited by Deleuze – and we repeat – as the inside *of* the outside; the Outside indeed “more distant than any exterior, [and] is ‘twisted’, ‘folded’, and ‘doubled’ by an Inside that is deeper than any interior, and alone creates the possibility of the derived relation between the interior and exterior” (Deleuze, 1988a, p. 110).

For Deleuze, the creation of concepts is impossible without “the laying out of a plane” (Deleuze and Guattari, 1994, p. 36). To think means to construct a plane – to actually show that it is there rather than merely “to think” it – so as to pragmatically “find one’s bearings in thought” (Deleuze and Guattari, 1994, p. 37) by means of stretching, folding, unfolding, infolding, that is by multiple movements of this plane’s diagrammatic features that may, or may not, traverse the plane as a result of potential interactions so that concepts would appear as the intensive features of the said plane.

Deleuze uses some terminology from the theory of communication that belongs to the family of complex systems, namely: how information is transmitted in a channel as a sign/signal system. A signal is produced at the moment of structural coupling (an operational closure) between two heterogeneous series of events operating at different levels. This does not mean that “something” actually flows through the channel, just that a relation, or interaction, is being established. A sign as a “bit” of information is Janus-faced: it provides a link as a bridge between



events without actually passing from one to another (cf. DeLanda, 2002, p. 103). It makes possible the transversal communication, and only as transversal, communication can enable the conferment of the necessarily shared meanings on experience notwithstanding that the concepts are forever fuzzy and never completely determined. A sign has to be Janus-faced because of its own autoreferentiality, that is it closes “as if” on itself, however – and this is crucial – by its very closure it is capable of becoming another sign, becoming-other at the new level of complexity, that is at the level of emergent contents or meanings.

Concepts are born from intuitions and impulses; they are created from affects and percepts – as Deleuze said, there exist forces that constrain experience. They may impose impulses that would compel one to think, and “where there is thought, things present act as signs or tokens of things not yet experienced” (Dewey, 1991, 14). In this respect, concepts always contain in themselves such a Firstness of intuition in a vague or potential form.

For Dewey too, impulses are the very pivots, or turning points for the reorganization of experience. Defining impulses as “agencies of deviation, for giving new directions to old habits” (Dewey, 1922/1988, p. 94), Dewey indeed implies what Deleuze called becoming-other in the process of individuation, or subject-formation.

Deleuze says that “directions ... are fractal in nature” (Deleuze and Guattari, 1994, p. 40), using the image of crossing and zigzagging lines as “a set of various interacting lines” (Deleuze, 1995, p. 33) to describe intuitions populating the plane. Yet, the implications are far-reaching, and the concepts are never simply deduced but are created anew by means of multiple and constructive connections. The problematic of representation is a real problem in analytic philosophy, which generally adopts an atomistic approach, that is, starting from taking representations for granted, then separating language structure into two independent levels, syntactic and semantic, without attempting to analyze how they may be interdependent. Deleuze, however, posits the grammar of disequilibrium as a precondition for the production of meanings, and which can be considered a specific syntax of a self-organised language-system.

The meanings are conferred not by reference to an external object but by internal structure, that is, the relational network of the system. Complex systems always operate under the far from equilibrium conditions that create a Deweyan tension, or Deleuzian difference, between the levels thus enabling transaction as a mutual transformation of energy or information. An immediate experience needs mediation, and “bringing these connections ... to consciousness embraces the meaning of the experience. Any experience however trivial in its first appearance, is capable of assuming an indefinite richness of significance by extending its range of perceived connections” (Dewey, 1916/1924, p. 255).

The immediate qualities, for Dewey, are inscribed in “the ‘subconscious’ of human thinking” (Dewey, 1925/1958, p. 299) and have the flavor of this singular Firstness that jump-starts all cognitive reflection, never mind that by themselves they will have been staying out of one’s awareness. Despite the fact that we may not be consciously aware of these qualities, they effect “an immense multitude”

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(Dewey, 1925/1958, p. 299) of immediate organic acts. As feelings, that is the affective (or *unthought*, as Deleuze would have said) qualities, they effectively direct one's behavior, having "an efficiency of operation which it is impossible for thought to match" (Dewey, 1925/1958, p. 299).

Dewey asserts that these qualities are indeed "the stuff of 'intuitions'" (Dewey, 1925/1958, p. 300). As intuitions, they play the role of "the dynamic or motivational factors influencing intellectual activity" (Noddings and Shore, 1984, p. 51) and, by implication, human habitual behavior. We remember the aforementioned Peircean "inward [or] *potential* actions ... which somehow influence the formation of habits" (Peirce CP 6.286). As immediate qualities, they belong to the realm of the Firsts, and Firstness represents only one of many dimensions, just a single *plateau* of Deleuze's complex plane of immanence: its affective dimension.

Without affects' entering a zone of indiscernibility with percepts, a percept *per se* would never undergo a deterritorialization into a line of flight in order to reterritorialize, that is, to enter a new territory, the one of a concept, so that the "feelings are no longer just felt. They have and they make *sense*" (Dewey, 1925/1958, p. 258). According to Deleuze, the deterritorialization marks "the possibility and necessity of flattening all of the multiplicities on a single plane of consistency or exteriorly" (Deleuze and Guattari, 1987, p. 9). For Deleuze, the virtual realm, inhabited by problematic ideas, cannot be determined by means of positing traditional rational philosophical questions, but must be exteriorized, that is explored by setting up problems that would address their spatio-temporal distribution and trace the processes constituting the dynamics of (and on) the plane of immanence.

Affective forces, as has been noted in the preceding chapter, are those arrows or directional lines that traverse one's universe and enable an unknown universe to appear seemingly from nowhere – "out of the shadow" (Deleuze and Guattari, 1994, p. 66) – as if it were a hidden variable. Virtual tendencies have the potential of becoming actual under certain conditions, namely: when they become unfolded "through differentiations of an initially undifferentiated field either under the action of exterior surroundings or under the influence of internal forces that are directive, directional" (Deleuze, 1993, p. 10).

For Dewey, the immediate *being* and *having* as primarily experienced serve as preconditions for reflective knowledge. Human experience based on empirical facts points to nature itself as saturated with "hidden possibilities [and] novelties" (Dewey, 1925/1958, p. 21). The multitude of things are experiential objects of emotions and desires, joy and pain, happiness and suffering, acted upon and acted by – in short, they are "things *had* before they are things cognized" (Dewey, 1925/1958, p. 21), the two predicates, "had" and "cognized", constituting two different dimensions of otherwise the same thing.

All logical reasoning must be preceded by "more unconscious and tentative methods" (Dewey, 1991, p. 113) because any object of primary experience contains potentialities that are not yet actualized, or factors "which are not explicit; any object that is overt is charged with possible consequences that are hidden"

(Dewey, 1925/1958, p. 20-21). Similar to Deleuze, Dewey acknowledges Bergson's positing the primacy of intuition: "[I]ntuition precedes conception and goes deeper .... Reflection and rational elaboration spring forth and make explicit a prior intuition. ... [R]eflection about affairs of life and mind consists in an ideational and conceptual transformation of what begins as an intuition" (Dewey, 1998, p. 198; see also Garrison, 1997a, p. 105 and Garrison, 2000, p. 115).

The knowledge organization that proceeds in a habitual way becomes "fully accepted" (Peirce CP 7.37) and as such "tends to obliterate all recognition of ... premises from which it was derived" (CP 7.37): the inferential steps *per se* stay out of consciousness, we are not aware of them. Peirce considered intuition not as a full capacity of the mind, but just the opposite, as one of the four so-called *incapacities*: we cannot intuit knowledge directly as every cognition is logically determined by previous cognition. But "if we were to subject this subconscious process to logical analysis, we should find that it terminated in what this analysis would represent as an abductive inference" (Peirce CP 5.181).

In a pragmatic sense, a number of possible consequences will never be fully exhaustive or complete. So the methods of inference are necessarily "more or less speculative, adventurous" (Dewey, 1991, p. 75), or as Deleuze has said, introducing one of his neologisms, *nomadic*. The *nomad* metaphor carries a topological nuance, "a fate of place" (Casey, 1997); indeed the whole philosophy of place is exemplified in Deleuze and Guattari's (1994) explicitly naming their approach *Geophilosophy*. This mode of philosophical thinking utilises "the points of transition, the conceptual shifts, the subtleties, and extra-textual uses" (Peters, 2004, p. 217). It implies the significance of a direction but simultaneously affirms the multiplicity of paths that nomadic tribes wander along in their movement in the "smooth space" (Deleuze and Guattari, 1987, p. 371) of the *steppe*.

The alternative law that guides nomads in their travels cannot be just *logos* pure and simple; rather, it is *nomos*, the law of the outside and the outsiders. Nomadic place is always intense because the nomads' existence is inseparable from the region or space they occupy. Their relation to the earth is deterritorialized to such an intensity, "to such a degree that the nomad reterritorializes on deterritorialization itself" (Deleuze and Guattari, 1987, p. 381). The adjective *smooth* is contrasted with *striated*, both terms defining different musical forms: striated – as ordered by rigid schemata and point-to-point connections ensuring a linear and fixed structure, and smooth – as an irregular, open and heterogeneous, dynamical structure of fluid forces, "a field ... wedded to nonmetric, acentered, rhizomatic multiplicities" (Deleuze and Guattari, 1987, p. 381) and filled with the polyvocality of directions that may have also been found "in the Greek milieu" (Deleuze and Guattari, 1994, p. 88).

Deleuze uses the word *polyvocality* stressing the very physicality of signs, this special sensibility that we referred to in the beginning of this chapter. In order to find one's way, one's bearing or whereabouts in the smooth space of steppe or sea, one must *feel* as much as see or listen. Nomad is always in-between, always in the process of becoming, "the life of nomad is the intermezzo" (Deleuze and Guattari,

1987, p. 380), distributed at once between here and there, between now and then, “always the day before and the day after” (Deleuze, 1995, p. 77).

Those are indeed genuine nomads that “act on the basis of the absent and the *future*. ... [For them,] nature speaks a language which may be interpreted. To a being who thinks, things are records of their past, as fossils tell of the prior history of the earth, and are prophetic of their future” (Dewey, 1991, pp. 14-15). Nomad’s way is an immanent trajectory and not a transcendental end, a deviant footpath and not the royal road. As a symbol for becoming, nomads always “transmute and reappear in the lines of flight of some social field” (Deleuze, 1995, p. 153), thereby extending the original, psychoanalytic, meaning of territorialization as used by Lacan. For Deleuze, as for Peirce and Dewey, social and psychological dimensions interpenetrate, and from the epistemological perspective, nomadic ideas would be, in Deleuze’s words, intensive multiplicities distributed in the smooth space.

The logic of the *included* middle, the affective logic of nomads’ lived experience precludes the nomadic ideas from meeting “the visual condition of being observable from a point in space external to them” (Deleuze and Guattari, 1987, p. 371) – quite in accord with Dewey having rejected what he called a spectator theory of knowledge. Nomads must continuously readapt themselves to the open-ended world in which even the line of horizon may be affected by the changing conditions of wind, shifting sands or storms so that no single rule of *knowing that* would ever assist nomads in their navigations, perhaps only *knowing how* would: “the local operations of relay must be oriented by the discovery (and often continual rediscovery) of direction” (Casey, 1997, p. 306).

The technology upon which relays operate is impulse-processing: we are back to impulse, affect, abduction, and intuition, that is the “‘first’, present, immediate, fresh, new, initiative, original, spontaneous, free .... Only, remember that every description of it must be false to it” (Peirce CP 1.302).

Keeping in mind the paradoxical flavor of Peirce’s warning, and remembering that any idea is only a “tentative suggestion” (Dewey, 1991, p. 112), let me tell a dream that I awakened with one morning some time ago. How to explain abduction? How to, rather than looking for any preconceived theoretical foundations, go from some form of experience to constructing an working model of the abductive inference? Mathematics helps, and a diagram as they say may indeed be worth more than a thousand words. I will have to draw a diagram, a familiar Cartesian grid for this purpose of tracing a line of flight. However with a difference.

The grid is not Cartesian in a strict sense, its two coordinate axes being located on a complex plane and marked with imaginary, on a vertical axis, and real on a horizontal axis, numbers respectively; an imaginary number  $i$  is the square root of minus one. Imaginary and real numbers together form a plane, on which a point represents a complex number  $a+bi$ . The point therefore stands for the pair,  $a$  of the real numbers *and*  $b$  of the imaginary numbers (Figure 3).

The smooth place will be indeed striated. This approach, by the way, satisfies Deleuze and Guattari’s positing a condition of the complementary relationship between the two: while all becomings take place in the smooth space, the progress

can only be “made up and in striated space” (Deleuze and Guattari, 1987, p. 481). Abduction’s place would be on the vertical axis, it is an impulsive and affective jump, a leap in *imagination* after all, so imaginary numbers seem to be the appropriate symbols to signify abduction.

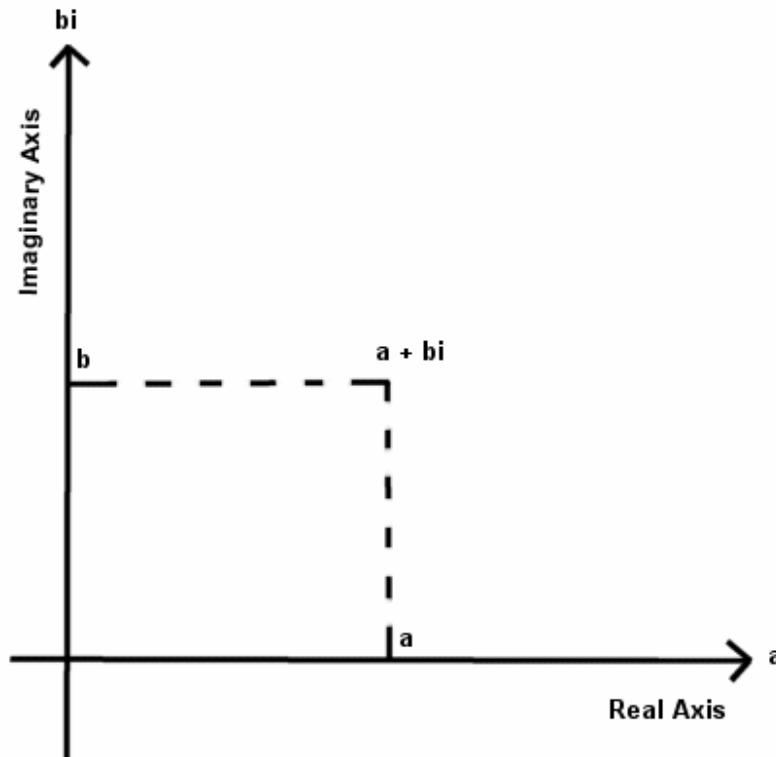


Figure 3

Descartes had a rather derogatory attitude towards imaginaries: it was he who first coined the name. There was no place for them in Newton’s mechanistic philosophy either: he considered them plainly impossible. Leibniz recognized their intermediary character and positioned them at the ontological level between being and non-being. The true metaphysics of imaginary number was elusive even for Gauss. He however agreed that their geometrical representation establishes their meaning.

Propositional logical reasoning is “measured” along the horizontal axis by means of real numbers, in the reality of the physical world. So in this model the syllogistic reasoning is complemented by imagination, insight, and intuition, such

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logic being represented by means of complex numbers as the ordered pair on a complex plane. Also, in this diagram, the Deleuzian thought-non-thought may coexist and may indeed be expressed as an ordered list of *complex numbers*, or the ordered pair on the slice of the flat surface, a plane. Both abductive inference and deduction may be represented by vectors, or directional forces in the sense suggested by Deleuze, indeed the arrows. Vectors model natural entities, the lines of forces. The two vectors “add up” – or better, *converge*, using Deleuze’s term – onto a vector on a complex plane, a vector having both magnitude and direction, that is being described by both a mathematical quality and a physical property (Figure 4):

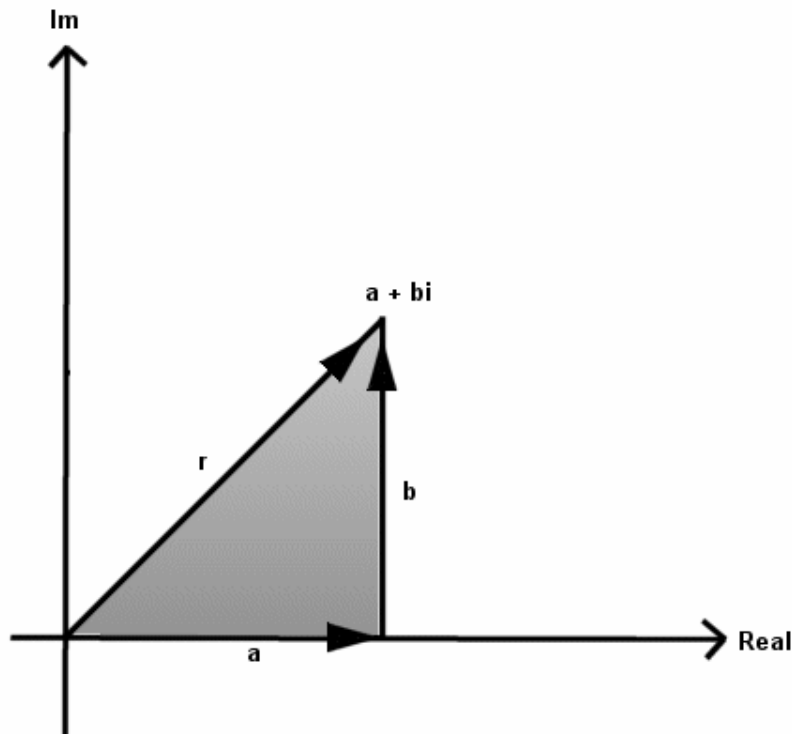


Figure 4

The resultant vector  $r$  may be considered to represent new knowledge or rather knowledge different from the preceding level within the heterogeneous system, because abduction contributes to explicating that what was yet tacit and implicit therefore enabling a vertical *jump* onto the succeeding level of complexity. Peirce indeed distinguished between ampliative and explicative forms of reasoning,

suggesting that the former aims at increasing knowledge while the latter, by contrast, is capable of making hidden or implicit knowledge explicit, of making manifest what is perhaps latent.

True, the addition vector as a whole is not the sum total of its parts, because as a *resultant*, it is not the sum in the arithmetical sense, it is indeed *in-between*, necessarily having, as Deleuze asserted, a partial and fractal quality but pointing nevertheless in the determined direction (Figure 4). Without the Firstness of abduction, all knowledge would remain pretty sequential, because signs would stay at the level of Secondness, perhaps growing in magnitude solely because of arithmetical progression along the horizontal line but without having been able to change direction.

It is merely the prior knowledge that would be amplified, but a tacit and preconscious, implicit “knowledge” (gnosis?) would lack any possibility of explication so as to enable a new knowledge – represented now, and totally in agreement with Deleuze’s philosophy, as a singularity (a complex point) on a plane, or “a complex place” (Deleuze, 1990, p. xiv), pointed to by the end of the arrow – to come into being, to enter cognition. The complex plane is “the unfolded surface [which] is never the opposite of the fold ... I *project* the world ‘on the surface of a folding ...’” (Deleuze, 1993, p. 93; italics mine)<sup>9</sup>. The triadic structure, therefore, presupposes a level of complexity that by necessity exceeds references: it is the level of meanings implicated in the ternary sign.

The rules of projective geometry that indeed serves as a basis for conceptualising the diagram as per Figure 4, establish the one-to-one correspondence like in a perspectival composition towards a vanishing point implying therefore isomorphism, or Deleuzian *mapping*, in the process of drawing or tracing a territory onto a map. Thirdness – the diagonal, the very transversal line – enables *becoming* of the new objects of knowledge as the newly created concepts. A novel hypothesis might bring in “a new direction of the zigzagging line” (Deleuze, 1995, p. 45), and the semiotic categories of Firstness and Thirdness, two categories *outside* formal logic, functioning indeed on the margins of the latter similar to Deleuzian *minorities*, are capable of constructing an intensive multiplicity of singular points at the new level of organization.

Abduction, which may take the form of intuition, or insight, or imagination, creates a magnitude along the vertical axis, or *Depth* (Dewey, 1991, p. 37), that is a leap – as if “the genesis of intuition in intelligence” (Deleuze, 1991, p. 111) – towards yet another level of complexity in the heterogeneous and dynamic knowledge-structure. An act of imagination is potentially transformative, according to Peirce, in its function to generate a meaning for a habit. Peirce called these ontological possibilities “airy nothings to which the mind of a poet, pure mathematician, or another might give local habitation and a name within that mind” (Peirce CP 6.455). New information, derived from as though “nothingness” of the unconscious with the help of an insight and as the effect of interpretation, not only conceptualizes an idea but also embodies it in the physical world of action.

As for Dewey, he also used the term, depth, “with respect to the *plane* upon which it occurs – the intrinsic quality of the [intellectual] response” (Dewey, 1991,

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p. 37; italics mine) of different people, asserting that “one man’s thought is profound while another’s is superficial. ... This phase of thinking is perhaps the most untaught of all” (Dewey, 1991, p. 37). And for Deleuze, his conceptualizations of the unconscious include the dimension of depth in the sense of an unconscious of thought, which is “as profound as the *unknown of the body*” (Deleuze, 1988b, p. 19). For Deleuze, the thinking process reflects “an adimensional *profondeur* (depth or depths)” (Bogue, 1989, p. 53) of one’s creative and intensive potential, and “to think is to create” (Deleuze, 1994, p. 94), or to invent concepts. Such is Deleuze’s pedagogy of the concept that involves two necessarily complementary, and both constructive, aspects: the creation of concepts demands laying out of the plane of immanence.

To think is also, as we remember, to differentiate/create, and the degrees of differentiation of intensities can be expressed diagrammatically via spatial projection, also enabling, by means of the laws of projective geometry, the reduction of dimensions of the aforementioned *adimensional*, and initially undifferentiated, field. This field appears to be “what the world was to Adam on the day he opened his eyes to it, before he had drawn any distinctions, or had become conscious of his own experience” (Peirce CP 1.302). When projected, signs subsisting in their virtual state, undergo transformations that “convey the projection, on external space, of internal spaces defined by ‘hidden parameters’ and variables of singularities of potential” (Deleuze, 1993, p. 16).

The natural world is not limited to its solely mechanical aspect similar to experience as not being reduced to action and reaction taking place at the level of Secondness: being burned, for Dewey, is not yet *an* experience but merely a physical change. While pain as quality is indeed the first, the child’s initial reaction would be to instinctively, therefore mechanically, withdraw the hand. Thirdness enters the process as mediation and learning, it takes time and self-reflection. Understanding and mind denote “responsiveness to meanings ... , not response to direct physical stimuli” (Dewey, 1916/1924, p. 315), and meaning is defined as “that form in which the proposition becomes applicable to human conduct” (Peirce CP 5.425), thereby contributing to further habits taking. The experiential world is not reduced to the brute facts of Secondness but becomes both an object of interpretation and a subject to the Deleuzian logic of sense (1990).

It is human understanding that enters the process as a necessary Thirdness in the relationship because “man is nature’s interpreter” (Peirce CP 7.54) in a continuous flow of semiosis. In semiotic terms, experience itself is a relational category. Structured by sign-relations, human experience is an expression of a deeper semiotic process. Every sign conveys a general nature of thought, and the Thirdness is ultimately a mode of being of intelligence or reason. Nature is much broader and includes its own virtual dimension, which is however never beyond experience.

For Deleuze, philosophy-becoming, like the witch’s flight, escapes by virtue of experimentation the old frame of reference within which this flight seems like a sort of immaterial vanishing through some imaginary event-horizon, and creates its own terms of actualization thereby leading to the “intensification of life” (Deleuze



and Guattari, 1994, p. 74) by means of re-valuation of experience. It is an active interpretation and not a passive adaptation that transforms the facts of natural world into interpretable signs with which, according to Peirce, the universe is always already perfused. And interpretation creates the meaning, or provides an experience with *value* that, albeit implicit in each and every triadic sign, appears to be as yet absent among the brute *facts* of Secondness.

If the “conception of the role of experience within nature means that ‘human affairs, associative and personal, are *projections*, continuations, *complications* of nature which exists in the physical and prehuman world’, [as] Dewey writes” (Campbell, 1995, p. 77; italics mine), then Deleuze’s method of transcendental empiricism truly serves as a “means of detour” (Dewey, 1934/1980, p. 4), which is necessary for evaluating and understanding such a complex experience.

Projection is a means of temporal connection too; as Dewey (1991) says referring to the modes of teaching, “projection and reflection, going directly ahead and turning back in scrutiny, should alternate” (Dewey, 1991, p. 217), and abduction itself, being just a guess or a hypothesis, is a projection of sorts: “the mind is in the attitude of *search*, of *hunting*, of *projection*, of *trying this and that*” (Dewey, 1991, p. 112). That’s why for Deleuze, despite the incommensurability of dimensions but precisely because they are capable of entering a zone of indiscernibility, a flat surface as an image of the plane of immanence serves as a pragmatic *effect* of the field of meanings, including the interrelated “social and psychological spheres of experience” (Bogue, 1989, p. 4).

The meanings are to be created – we remember Deleuze’s saying that immanence is constructivism and Dewey’s asserting that “the work of education is constructive” (Dewey, 1916/1924, p. 315) – and it is the surface that becomes “the locus of sense: signs remain deprived of sense as long as they do not enter into the surface organization which ensures the resonance of two series” (Deleuze, 1990, p. 104) enacted by projection, that is, an abductive, intuitive leap. The depth of the psyche is capable of making sense only when it, “having been spread out became width. The becoming unlimited is maintained entirely within this inverted width” (Deleuze, 1995, p. 9), and the meaning of events are “all the more profound since [an event] occurs on the surface” (1995, p. 10) in the projection of the former as the nomadic distribution of singular points constituting a line.

The Firstness of abduction as “the presentation of the unconscious” (Deleuze, 1994a, p. 192) does make *becoming*, in Deleuze words, unlimited. At the level of Secondness, along the horizontal line, “the representation of consciousness” (Deleuze, 1994a, p. 192) will surely have a different magnitude: pain, for example, is directly had, but may be interpreted as a toothache – or, as we said earlier, as an effect of being burned – and hence judged to be a *singularity* of a specific kind (cf. Dewey, 1938, p. 515), as *this* and not *that*. The diagonal or transversal line will cast its own shadow on the horizontal axis appearing as if from nowhere – because it exists at a level of complexity exceeding the realm of real numbers.

We remember that the dyadic logic, by virtue of its very principles, excludes the Thirdness of mediation, expressed by the diagonal transversal that came into being as a *resultant*, and thus created a closed figure (Figure 4), an area, an integral. The

triangle has closed on itself, as if self-referentially, but – and this is crucial – at a different level of organization. A genuine, that is triadic, sign is ultimately self-referential indeed. A sign as interpretant is what combines affects and percepts into a concept because it at once represents the paradoxical “future memory” (Peirce CP 7.591) of one’s cognition. For Peirce, a sign can be described as “an Object perceptible, or only imaginable, or even unimaginable” (Peirce CP 2.230).

A complex plane would not be complex without the axis of imaginary numbers, but would have remained a Cartesian grid preventing us from understanding how new objects of knowledge may have come into existence. The infamous learning paradox which is being questioned again and again, and has been recently connected with abduction (Prawat, 1999),<sup>10</sup> will forever remain a paradox unless interpreted pragmatically.

Going back to Plato’s *Meno* dialogue, Prawat (1999, p. 48) reminds us that if and when any new knowledge is incompatible with prior learning, the latter in fact being a precondition for the understanding of what is new, then there is no foundation on which to build such a new knowledge. Nevertheless the new knowledge is somehow acquired by learners. Presenting abduction as a means of resolving the dilemma, Prawat approaches the former mostly at the level of heuristics, that is, as a useful metaphor. In Peircean terms, however, abduction is a necessary component of the logic of discovery or hypothesis-generation.

Let us recall the *Meno* dialogue, in which Plato states the famous paradox in the following way:

*Men.* And how will you inquire, Socrates, into that which you know not? What will you put forth as the subject of inquiry? And if you find what you want, how will you ever know that this is what you did not know?

*Soc.* I know, Meno, what you mean; but just see what a tiresome dispute you are introducing. You argue that a man cannot inquire either about that which he knows, or about that which he does not know; for he knows, and therefore has no need to inquire about that – nor about that which he does not know; for he does not know that about which he is to inquire.<sup>11</sup>

Meno is puzzled by what Socrates means when he provocatively says that we do not learn, and that what is called learning is pretty much a process of recollection. Are we facing an absurdity because either one knows *a priori* what is it that she is looking for, or one does not know what she is looking for and therefore cannot have prior expectations of finding anything? According to Plato, the theory of recollection demands that we always already possess all the knowledge unconsciously and simply recognize the given truths. However, if any new knowledge is incompatible with prior learning – the latter is fact being a precondition for the understanding of what is new – then there is no foundation on which to build such a new knowledge.

We either learn what we always already knew, that is, the concept of learning is meaningless; or we are in the dark anyway because it is impossible to recognize this new knowledge even as we are trying to learn something new. Socrates, in

fact, argues that to learn something means to discover a previously unknown truth; it is clear, however, that we won't be able to recognize it anyway. After the lengthy dialogue with a slave boy, Socrates concludes that it is not possible to acquire any new knowledge that wouldn't have been already possessed by a learner. Therefore we do not learn but must have all possible truths within ourselves. Such is the Socratic paradox leading to Platonic theory of recollection. Plato's theory of recollection, we repeat, demands that we always already possess all the knowledge unconsciously and simply recognize the given truths. Simply recognize? Not so, even if the slave boy in the *Meno* dialogue indeed appears to possess some kind of "tacit precognition" (Magnani, 2001, p. 13).

Several educational studies have inquired into possible solutions to the learning paradox and "the dilemma of enquiry" (Petrie, 1891) mainly with regard to science education and the possibility of students' conceptual change (Bereiter, 1985; Hendry, 1992). Prawat (1999) ingeniously brought into the conversation the legacy of American pragmatism and Dewey's logic as the theory of inquiry. Using the paradigm of complexity we may attempt to clarify the paradox even if only partially, indeed abductively, and also in some respect to unpack the following enigmatic statement by Peirce concerning a guess at the riddle: Thirdness is "governing secondness. It brings information, ... determines an idea and gives it body" (Peirce CP 1.537 in Sheriff, 1994), that is, it contributes to the objects of knowledge appearing to consciousness in the natural world.

Contrary to Prawat's asserting that abduction is the sole means to new knowledge, we can see that surely "abduction is involved, but so are deduction, induction, and language moves" (Noddings, 1999, p. 84).<sup>12</sup> If abduction were the only "cause," no new knowledge would ever come into play because no construction of a closed figure, a triangle of Firstness, Secondness and Thirdness, representing "any given multiplicity ... like one area on a plane" (Deleuze, 1995, p. 146), would have been possible.

The leap of imagination, a sign of Firstness, if such indeed were to take place, would sink back into a dyadic existence, back to the point of its own departure and, worse, we would not even know this! It wouldn't make a difference to us because there would not be any difference potentially capable of making the difference as its own derivative, in the first place.

Firstness, by definition, does not refer to anything else. We remember Peirce's having said that abductive inference bypasses our awareness and the mind remains unaware where and when abduction begins and ends. Difference has to be perceived – felt, seen, heard, touched – in order to make a difference, to create "a local integration moving from part to part and constituting smooth space in an infinite succession of linkages and changes in direction" (Deleuze and Guattari, 1987, p. 494). The integration into reflective thinking is possible only at the level of Secondness, in the physical world of action, where Newtonian laws are in full power and every action has a reaction. But without Firstness, Secondness is impossible, both are cardinals – and this particular Peircean nuance was totally ignored by modern philosophy.

## CHAPTER 2

So too was Thirdness, which, as we said earlier citing Peirce, governs Secondness, creating a “synthetic consciousness, ... sense of learning” (Peirce CP 1.377), the necessary mediation of immediacy, the triadic relation between affects, percepts and concepts that alone is able “to get things moving” (Deleuze, 1995, p. 25). And the triangle simply must close on itself, because “a complete, an integral act of thought requires that the person making the suggestion (the guess) be responsible also for reasoning out its bearings upon the problem in hand” (Dewey, 1991, p. 98), such a problem or perplexity, as an instance of real, even if barely perceived, experience – in the format of the first “immediate element of experience, generalized to its utmost” (Peirce CP 7.365) – having initiated this guess in the first place. In this respect a semiotic triangle (Figure 1) also closes the Platonic gap between the sensible and the intelligible. Because the growth of reason consists “in embodiment, that is, in manifestation” (Peirce CP 1.615), in this semiotic process the sensible world becomes intelligible while in the meantime affording sensibility to the intelligible world.

How can this theorizing help us in an educational setting? The teacher’s task in a classroom then, in order to get things moving, will become one of providing the appropriate conditions, as Firstness, under which something new would be produced. A classroom permeated with a creative potential of desire, curiosity, trust, and interest towards discovering something as yet unknown has the possibility to turn into an experimental, beloved by both Dewey and Deleuze, laboratory. All one should ever do when teaching a course, Deleuze says, is “explore it [a question], play around with the terms, add something, relate it to something else” (Deleuze, 1995, p. 139).

The saying goes that children are natural philosophers, precisely because children have *affects* and *percepts*, posited by Deleuze, in abundance, and here are we, adults, children no more, whose routine *conceptual* thinking has been reduced to the level of Secondness in the form of solely instrumental rationality. And again, in order to *get things moving*, teachers are to establish the Firstness, even more – as perpetual, and sharing the inquiry, inquirers – to become Firsts themselves, so as to enable their students to acquire experiential knowledge of the facts, as Secondness, by means of assigning multiple values of meanings, as Thirdness, to their own experience.