Educational Life-Forms

Deleuzian Teaching and Learning Practice

David R. Cole

Foreword by Noel Gough

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NOEL GOUGH

FOREWORD

Escaping the Program: A Foreword

When the path is clear and given, when a certain knowledge opens up the way in advance, the decision is already made, it might as well be said there is none to make: irresponsibly, and in good conscience, one simply applies or implements a program. Perhaps, and this would be the objection, one never escapes the program. In that case, one must acknowledge this and stop talking with authority about moral or political responsibility. The condition of possibility of this thing called responsibility is a certain *experience and experiment of the possibility of the impossible; the testing of the aporia* from which one may invent the only *possible invention, the impossible invention* (Jacques Derrida, 1992b, p. 41, italics in original).

The only way to discover the limits of the possible is to go beyond them into the impossible (Arthur C. Clarke, 1962, p. 21).

I used the epigraphs above to introduce another recently-completed essay (Gough, in press), but I make no apology for recycling them here because I interpret David R Cole's book as providing an imaginative and provocative alternative response to the problem I attempted to address in it. The problem – which I posed as 'can we escape the program?' – arose in the context of a national Education Research Futures Summit, a joint venture of the Australian Association for Research in Education (AARE) and the Australian Council of Deans of Education (ACDE), the purpose of which was 'to contribute to a capacity of education researchers to analyse, envisage and plan for the future, conceived in terms of not one future but a range of possible ways of thinking and conceiving the future' (Alison Lee, et al., 2010, p. 1). My contribution to the Summit brought together two lines of inquiry, each of which explores the paradoxical problematics that both Jacques Derrida and Arthur C. Clarke signal in the passages quoted above – paradoxes and problems that puzzle poststructuralist philosophers and authors of science fiction alike, and which necessarily attend the ways that we think, act, and responsibly position ourselves in relation to unpredictable, uncertain, unknowable and incalculable futures. I will describe these lines of inquiry, and the *problématique* they explore, in a little more detail, because much of my enthusiasm for the approach Cole takes in this book is due to the fresh insights he provides on a number of deeply troubling aspects of educational inquiry and practice.

One line of inquiry, which has now preoccupied me for more than three decades, explores alternative futures in education, with particular reference to the

ways in which 'the future' can be understood as an object of scholarly inquiry. This research has encouraged me to value alternatives to what Derrida calls 'the program' – the 'clear and given' path that 'certain knowledge opens up… in advance' and that draws us toward a future that we are 'programmed', as it were, to (re)produce. It has also led me to distrust categorical distinctions between 'possible' and 'impossible' futures and to see generative potentialities in refusing to demarcate them.

More recently I have engaged with a line of inquiry that explores how the language of *complexity* – a heterogeneous assemblage of concepts and metaphors arising from complex systems theorising in a variety of scholarly disciplines – invites us to rethink education in terms of *emergence*. As Jeffrey Goldstein (1999) writes, emergence 'refers to the arising of novel and coherent structures, patterns, and properties during the process of self-organization in complex systems' (p. 49). Complex self-organising systems provide conditions in which Derrida's 'impossible inventions' might emerge because the radical novelty of emergents cannot be anticipated before they actually materialise – they emerge from experimentation with what, i*n the present,* cannot be foreseen as a possibility (see also Jacques Derrida, 1992a, p. 16). Complexity potentially destabilises the instrumentalist rationality that 'programs' educational systems (and agents/agencies within them) to privilege orderly and predictable processes culminating in stable output.

Cole brings Gilles Deleuze's philosophy to life as he pursues lines of inquiry that, to my mind at least, complement and converge with the ones I describe above. The word 'future' appears frequently throughout this book's pages, as do variations on terms such as 'complex/complexity' and emergent/emergence'. Cole demonstrates how thinking with Deleuze offers incentives and opportunities to 'escape the program' but, as he writes at the beginning of chapter 7, this is not achieved via 'a confrontational approach' that desires 'to immediately revolutionise current practice'. Rather, Cole 'engages with the interstices and crossing points between the known and unknown in teaching and learning to unlock a potential future of education'.

Those of us who share Cole's passion and determination to work between the known and unknown understand the difficulties of doing so, but our efforts to materialise the various potentialities of futures-oriented thinking, complexity, emergence, and Deleuzean thought are also constantly undermined by a politics of *complexity reduction* that pervades public life in many nations (see Gough, 2010). Among the most pernicious and destructive examples of this politics is the idea that education should be reduced to an 'evidence-based' practice by seeking causal links between measured educational 'inputs' and the measurement of outcomes. This 'what works' program is now an uncritically taken-for-granted assumption in many countries. Advocates of evidence-based education, such as David Hargreaves' (1996) and Robert Slavin (2002), argue that educational inquiry should be modelled on scientific research procedures in fields such as medicine, including large-scale experimental randomised controlled field trials.

My converging/emerging positions on futures and complexity lead me not only to accept that there are limits to predictability and control but also that we *should* understand that educational processes *ought to be* characterised by gaps between 'inputs' (policy, curriculum, pedagogy) and 'outputs' (learning). In Gert Biesta's (2004) terms, these are not gaps to be 'filled' but *sites of emergence*. In other words, what we have previously imagined to be 'outcomes' or 'products' – knowledge, understandings, individual subjectivities, etc. – emerge in and through educational processes in unique and unpredictable ways. However, we must also bear in mind the possibility that attributions of emergence reflect our ignorance of non-emergent explanations (see Mark Bedau, 2008), which is precisely why we should entertain, to repeat Derrida's (1992b) words, '*the possibility of the impossible*' and strive to invent '*the impossible invention*' (p. 41). As Derrida (1989) insists, such an invention is incalculable before it actually appears and must 'declare itself to be the invention of that which did not appear to be possible; otherwise it only makes explicit a program of possibilities within the economy of the same' (p. 60). Although Cole mentions Derrida only once in passing (which is not, I hasten to say, a criticism), I am convinced that this book can be read as a powerful enactment of Derrida's notion of '*testing of the aporia*' and brings us closer to materialising '*the impossible invention*'.

Deborah Osberg and Gert Biesta (2007) argue that an 'emergentist' understanding of knowledge production converges with Derrida's account of deconstruction, neither of which challenge existing knowledge by overturning it:

> Rather, they ask us to imagine a future which is *incalculable* from the perspective (or logic) of existing knowledge. They do this through affirming existing knowledge *without allowing it to overrule what is to come*. By acknowledging but not *following* existing knowledge, both deconstruction and strong emergence seek to negotiate a passage between the knowledge that has been and that which is still to come (p. 45, italics in original).

Osberg (2010) refines this argument by focussing more explicitly on how the respective 'logics' of emergence and deconstruction might help us 'to act responsibly towards an incalculable future – to care enough to do justice to the future' (p. 162). She argues that although the future is 'incalculable', this 'does *not* mean that we should no longer try to influence the future by making decisions about it' or 'that we should passively accept whatever comes our way' (p. 162, italics in original). Rather, we can adopt 'an emergentist understanding of process, which is *not* orientated towards control and closure (choosing what to do) but towards the invention of the new (putting things together differently)', which allows us 'the possibility to think about the future in non-teleological terms' (p. 163, italics in original).

Cole refers to evidence of several kinds and forms, including empirical studies of children reading in and out of schools, and recent brain research that shows learning to be mostly a function of novelty, but he does so in the spirit of Osberg and Biesta's sense of 'acknowledging but not *following* existing knowledge'. Unlike far too many education researchers in recent years, Cole neither claims that

he has better evidence than someone else nor assumes that the mere use of the word 'evidence' is enough to clinch an argument. But more importantly than this, Cole writes in the spirit of Deleuze's (1995) encouragement for 'writing to bring something to life, to free life from where it's trapped, to trace lines of flight' (pp. 140-1). This is particularly evident in Cole's deployment of the Deleuze-inspired figuration of 'educational life-forms' in contrast to the more conventional academic tactic of arguing through metaphor. To illustrate this point, I will compare Cole's approach with Thomas Ricks' (2010) argument that a recent 'bacteriology paradigm revolution' can function as a metaphor for (re)interpreting Chinese excellence in mathematics education.

Ricks begins by pointing out that Chinese nations – including the mainland, Taiwan, Hong Kong, and Singapore (77% ethnic Chinese) – lead the world in mathematics education as measured by performance on international comparative tests. He then uses recent developments in bacteriology as a metaphor for understanding China's education successes by challenging common conceptions that Chinese education is 'traditional' due to their large class sizes, lecture-based/teacher-centred pedagogy, exam-driven curriculum, technology-barren classrooms, and student recitations. Until recently, bacteriology was dominated by a laboratory model of culturing bacteria in nutrient-saturated media, which defined bacteria as primitive eating and reproducing machines, and limited bacteriologists' understanding of the development of new potent bacterial strains resistant to the most powerful antibiotics. Bacteriologists assumed that 'superbugs' arose through inherited immunity, that is, antibiotics culled colonies, leaving only the most resistant cells to reproduce into drug-proof strains. Medical research thus concentrated on developing more powerful antibiotics to battle this increased resistance.

But more recent research suggests that superbug strains form not so much from inherited genetic immunity but through intercellular collaboration and purposeful problem solving at the colony level. The new bacteriology paradigm addresses intercellular relationships that consider the colony as a single – albeit loosely coupled – organism. Bacteriologists now see how hostile environments trigger individual bacteria to cooperate; when survival is threatened the entire colony forms a complex system in which individual bacteria are intertwined, interrelated, mutually-reinforcing members. The colony exhibits novel behaviours not shown by individual cells. Using various chemicals (simple molecules, polymers, peptides) and more complex molecules (proteins, bits of genetic material, plasmids, viruses), bacteria form a colony-wide genomic web through which they exchange genetic material and splice it into existing DNA to develop genetic solutions that are quickly shared with the other colony members. Specially bred, non-immune bacteria have demonstrated colony-wide resistance to low-level antibiotic exposure, with entire colonies developing genetic immunity in as little as 48 hours. Researchers now try to fight bacterial infections in part by developing drugs that interrupt bacterial communication.

Using the 'bacteriology paradigm revolution' as a metaphor, Ricks argues that China's 'traditional' modes of instruction mask the deeper factors that make it so

successful. He argues that the Chinese use many principles that are core to initiating complex systems, such as forming local and regional collaborative groups that attempt to solve the issues facing them, as well other complex activities. For example, students in China often work in small groups after an introductory teacher lecture to solve specially-designed problems that occasion classroom-based student complex systems. Thus, although a lecture by itself may be a less effective method for mathematics instruction, the combination of a teacher lecture prior to collaborative student activity may enhance that activity by providing a framework (a type of constraint) to focus that activity. Additionally, teachers work together in research groups, school collaboratives, and city-level or regional cooperatives to further develop the national curriculum. Ricks also suggests that the more holistic Chinese approach (where students and teachers advance together in unified cohorts over multiple grades, parents are more involved in their child's education – even attending classes – and universities cooperate with schools to implement the national curriculum) helps the Chinese to develop mathematising complex systems more readily in their classrooms, schools, and communities. He argues that the 'traditional' Chinese educational methods – largely formed during the Communist era after World War 2 – are a revolution against the entrenched traditional reductionism of Western educational systems. Whereas the USA is isolationist and fractured in its mathematics education practices, the Chinese have networked communities at the class, school, and regional level that provide for much more robust complex functioning. The Chinese practice of deprivatising their work contributes to this process. They have developed structures that provide for sufficient redundancy to allow complex formations to coalesce, but with enough freedom for individual creativity, and enough expectations (constraints) to keep the system operating efficiently.

I was present when Ricks presented his argument to an audience that included more than 200 Chinese academics at a conference in Shanghai in November 2010. My immediate impression was that his choice of metaphor might be forced and even offensive, but I was also puzzled as to what a reader/listener might be able to *do* with the metaphor, with what its *function* might be. This is where the difference that some Deleuzean scholars see between metaphor and figuration comes into play. Rosi Braidotti (2000) argues that 'the notion of "figurations" – in contrast to the representational function of "metaphors" – emerges as crucial to Deleuze's notion of a conceptually charged use of the imagination' (p. 170). Similarly, Donna Haraway (1997) asserts that 'figurations are performative images that can be inhabited… condensed maps of contestable worlds… {and} bumps that make us swerve from literal-mindedness' (p. 11). The 'bacteria-hurricane machine' that Cole introduces in chapter 1 is just such a 'conceptually charged use of the imagination' – a bump that could make us swerve from the literal-minded metaphorical representation of Chinese learners as 'like' a bacterial colony. Because the bacteria-hurricane machine acts on both the micro and macro levels it encourages us to imagine the life forms of Chinese education as a conjunction of the micropolitics of classrooms and family homes and the macropolitics of the world's most populace nation.

As Cole writes of the bacteria-hurricane machine towards the end of chapter 1:

This machine may give rise to pedagogy that explores the facts and mechanisms of bacteria and hurricanes, and a resulting wealth of mathematical and scientific ideas. On the other side of knowledge work, the bacteria-hurricane machine could be an inspiration for artistic, musical and written work. What would a bacteria-hurricane machine look like? What would it sound like? How could we describe its action? What would happen if a bacteria-hurricane machine appears in the world?

These are very generative questions that I trust readers will accept the challenge of answering, along with the many other such questions – stated or implied – to be found in this book. I am convinced that engaging with such questions and provocations is one of our brightest hopes for escaping the program.

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CHAPTER 1

INTRODUCTION TO EDUCATIONAL LIFE-FORMS: DELEUZIAN TEACHING AND LEARNING PRACTICE

INTRODUCTION

This book sets out to use the philosophy of Gilles Deleuze for the purposes of education. The statement of this aim means that one is immediately confronted by two problems:

1. How consistent is the philosophy of Gilles Deleuze?
2. What did he say about education, and has this been said elsewhere by those primarily concerned with teaching and learning?

With respect to the first point, certainly the uptake of Deleuzian philosophy in education denotes a non-systematised, potentially contradictory approach. Yet, there is sense in this potentially confusing starting point. The most prevalent advantage to deploying Deleuze in education is that one does not become embroiled in futile system building. The notion of a 'one size fits all' conceptual framing for education is immediately withdrawn through Deleuze. In the place of theoretical framing, one has to be sensitive to context, able to invent concepts, flexible and creative in one's use of language, conscious that theory and practice are constructed, and, above all, be responsible for the consequences of one's writing. Education systems can represent monolithic wills to power on the social plane (see Hayes et al., 2006), and the construction of hegemonic power with its accompanying inflexibility will be challenged through this book, as one becomes aware of a different way to teach and learn through educational change as process.

The second problem is a scholarly one, yet has relevance to this introduction. Deleuze's specific concern for education comes full circle from his dissertation, *Difference & Repetition*, where the notion of learning is discussed at several points and related to the key Deleuzian concept of singularities (1994a). To the pedagogy of the concept that Deleuze & Guattari (1994) discuss in their last joint venture, *What is Philosophy*?

> If the three ages of the concept are the encyclopaedia, pedagogy, and the commercial professional training, only the second can safeguard us from falling from the heights of the first into the disaster of the third – an absolute disaster for thought whatever its benefits might be, of course, from the viewpoint of universal capitalism (p. 12).

Deleuze therefore accords education great importance through pedagogy, though he never engaged with a fully realised philosophy of education. Rather, Deleuze embodied the educational principles of his philosophy with respect to his work at Vincennes and as a public intellectual. This book shall tease out his philosophy of education from the clues that he has given us, and yet will try to do something fresh with the material. For example, the pedagogy of the concept that Deleuze and Guattari (1994) discuss in *What is Philosophy*? is aligned with their notion of concept creation, that is, according to them, the proper work of philosophy. The point here is not that anyone can make up concepts and that they will have an equal impact in the world, but that the careful and precise construction of concepts may give one the architecture of mobile thought. Deleuze avoids cognitivism through engagement with the socio-affective aspects of concepts, and uses pedagogy as a means to social demonstration. Concepts also have to do work in the world, and survive, sometimes under a barrage from competing and parallel terms. The pedagogy of the concept is therefore pragmatic in that the philosopher will experiment and trial new ways to get their points across. Thought should live according to Deleuze, and not get bogged down in dead ends or closed systems (1994a). This book is an example of such an approach, challenging us to understand Deleuze's ideas, and to apply his philosophy to make education work better.

With respect to the other theorists working in this field, this book aligns an array of Deleuze commentators, Deleuze sources and educational thinkers who have worked in the area of pedagogy and expounded ideas that are parallel and complementary to the educational life-forms. The point of this alignment is to show that Deleuze gives us a new way forward in education, one that could take over the reigns from critical theory, that blends feminist concerns with pragmatism, and introduces new terms and concepts into the politics of education (see Peters, 2004). Deleuze does not allow one to remain still, or in certitude, but sets up a type of restlessness, a questioning and expansive mode in education, one that should take one into (an)other space. Gilles Deleuze was a rigorous philosopher whose applied ideas carve out a new way of thinking about education, one that this book addresses and takes seriously as a mode of 'singular-becoming' (cf. May, 2003).

EDUCATIONAL LIFE-FORMS

What is an educational life-form? The first section of the title is an example of conceptual creativity that has been derived from Deleuze. Of course, in schools, colleges and universities, there is an abundance of life. However, this isn't the point of the life-forms. The primary implication of the life-forms and their use in this book is that one should think through the questions about life with respect to education. For example, the ways in which teacher training happens can be a matter of machinic functioning in terms of responding to the demands of government and schools for teachers (see Darling-Hammond & Bransford, 2005). These processes can determine the type of teacher training that takes place inside the institutions – that could become demand driven and primarily reacting to notions of efficiently producing teachers for specific demands. Such teacher training institutes would perhaps have no time or space

for the vagaries of philosophy, thought would be effectively shut down or kept to a minimum in such places, concept creation would be replaced by pre-determined outcomes and criteria based teaching and learning. One could say that the educational life-form of these machine driven teacher training institutes has been determined by outside forces, which tend to consign open thought and imagination to otherness (cf. Gough, 2004). However, one of the points of thinking through the questions of life with respect to education, and as educational life-forms, is that the signs of life can never be extinguished from a learning context. For example, rebellion and dissonance may be discussed inside the machine driven institution, despite being officially taken out of the curriculum. Lecturers and students can do philosophy in another name, e.g. educational theory or 'framing'. The sets of educational criteria and outcomes based learning packages can be questioned and critiqued just as soon as they are presented and implemented. Therefore, different educational life-forms may emerge from the inside, and in contradiction to a prevailing climate or machinic process.

The second implication of the educational life-forms is that one may perform conjunctive synthesis. This is a type of experimentation with form, which also encourages one to think (about life). Education is about understanding and joining the natural and the 'man-made', and in many ways, dispensing with this false dichotomy. The heterogeneity of potential educational life-forms is parallel to the diversity one finds in the natural world, and involves bringing concrete examples to bear on learning styles and education. In the following two figures (1 & 2), I have tried to assemble two highly diverse systems to envisage a new educational life-form:
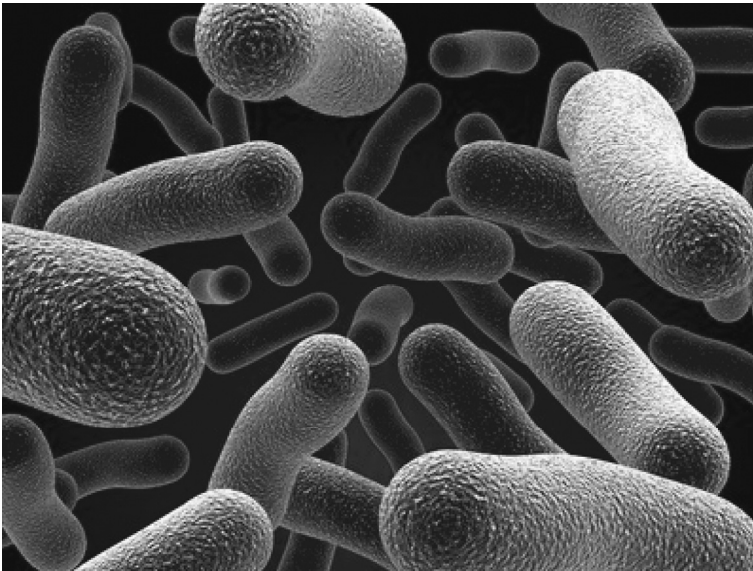
Figure 1. Computer representation of bacteria.
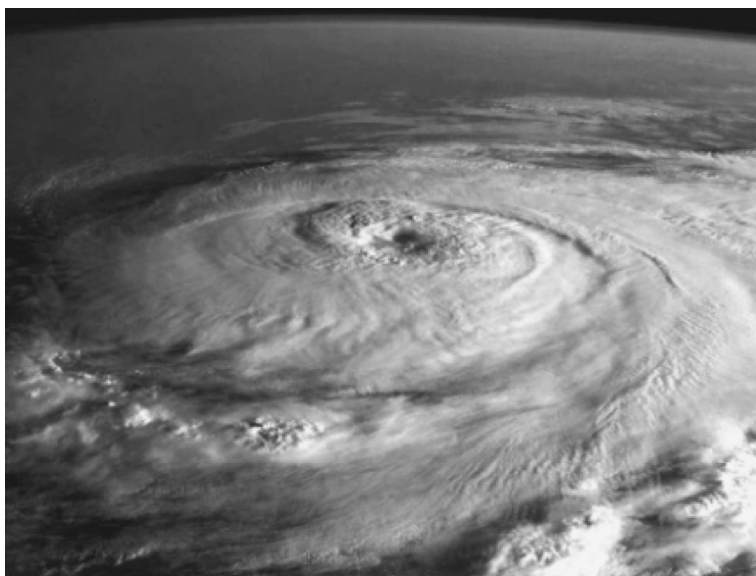
Figure 2. Hurricane Isabel photographed from space. Courtesy of NASA: (www.nasa.com).

Bacteria works on the micro level by showing prodigious reproductive power, morphogenesis, survival and invasive instincts. Hurricanes act on the macro level, able to generate power from a vortex and ingest smaller systems as they grow in size and vigour. The bacteria-hurricane conjunction is therefore a powerful conceptual system. This life-form could be lethal in many ways, as it brings to bear a vast array of resources on bodies. If one applies this new life-form to education, it could be seen to be a means to learning that works on a micro and macro level. The bacteria-hurricane machine functions by encountering others, and by engaging in invasive action. The bacteria infects any susceptible hosts, the hurricane sweeps them up into its swirling mass. The bacteria-hurricane machine is a thought experiment that encourages the imagination, and joins natural life forms in new creation. This is the type of thought that is enabled through the educational life-forms and should be enacted through Deleuzian teaching and learning practice.

DELEUZIAN TEACHING AND LEARNING PRACTICE

The second part of the title of this book names the way in which one is being encouraged to teach and learn as Deleuzian. To summarise this conception, I have drawn together the main parts of this practice in the radiating diagram below (Figure 3):

Practice theory

Learning-time
(virtuality)

(An)other space

Relational
pedagogy
(affect)

Deleuzian teaching
and
learning practice

The educational
unconscious
(desire)

Life-forms

epiphanies

Community learning theory
(constructivism)
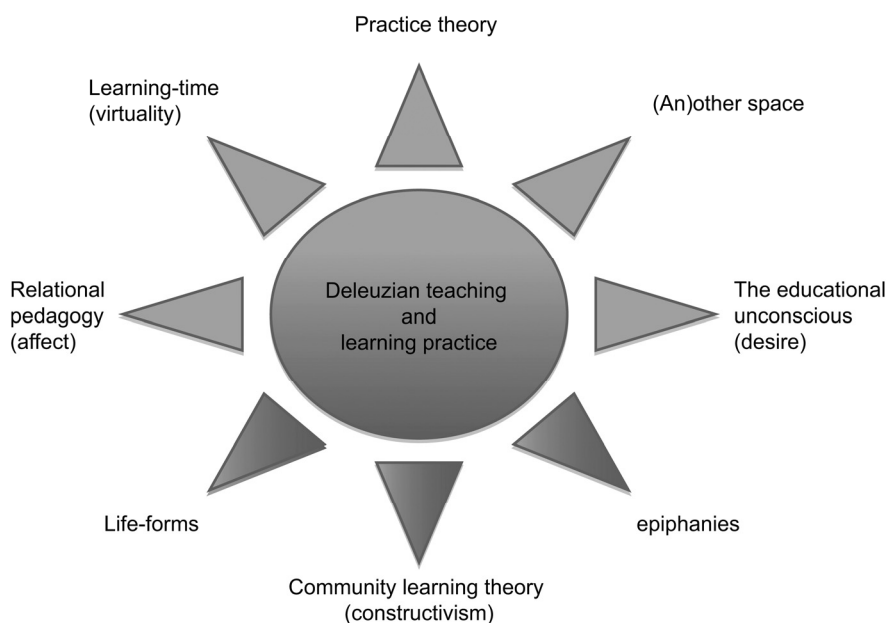
Figure 3. Deleuzian teaching and learning practice.

Deleuzian teaching and learning practice is the centrepiece of this book. Everything goes through this practice, and emerges from it altered to some extent. This alteration happens because the ways in which education is figured and (re)figured here is under sustained attention, from the micro to the macro, as in the example of a new life-form above (the bacteria-hurricane machine). Deleuzian teaching and learning practice is therefore an anathema to complacency, and an organising principle with respect to keeping alive one's identity as a learner (see Boud & Lee, 2005). This point is especially important for practising teachers or pre-service teachers, with their memory and unconscious certainly full of the ways in which teaching and learning has been done to them in the past. Practising teachers should gain life from using and thinking about Deleuzian teaching and learning practice, as commonplace assumptions and habitual ways of doing things are continually put under erasure. That's not to suggest that one is immediately transformed by Deleuzian teaching and learning practice, but that steps can be taken to address ways in which normative values and systems have permeated practice, and that shall henceforth be removed to the benefit of high quality teaching and learning.

  Many of the points on the radiating diagram (Figure 3) shall be addressed throughout the chapters of this book. However, I shall presently look at the notion of Deleuze's philosophy as being connected to practice theory. To my knowledge, this is the first time that such a connection has been made, and it is therefore worth justifying more fully. Practice theory is often articulated with respect to

Aristotelian and Wittgenstenian philosophy (see Green, 2009), or in relation to activity theory (Engeström, Miettinen &Punamäki, 1999). The Aristotelian tradition focuses on the moral-ethical aspect of practice, whilst the Wittgenstenian tradition investigates the post-Cartesian state of subjectivity in practice. With respect to the Aristotelian influence on practice theory, Deleuze uses the philosophy of Spinoza (see chapter 2). Wittgenstein's influence on practice theory is pertinent to the connection that I am making between Deleuze and practice theory, indeed, the title of the book, *Educational life-forms*, is reminiscent of Wittgenstein's 'forms of life'. Yet Deleuze was not a follower of Wittgenstein, far from it, as he famously termed Wittgenstein to be an "assassin of philosophy" (Lecercle, 2010, p. 10). The conjunction between Deleuze and Wittgenstein works here through the ways in which the subject is revealed from within and through practice:

How do you make yourself a Body without Organs?

At any rate, you have one (or several). It's not so much that it pre-exists or comes ready-made, although in certain respects it is pre-existent. At any rate, you make one, you can't desire without making one. And it awaits you; it is an inevitable exercise or experimentation, already accomplished the moment you undertake it, unaccomplished as long as you don't. This is not reassuring, because you can botch it. Or it can be terrifying, and lead you to your death. It is non-desire as well as death. It is not at all a notion or a concept but a *practice, a set of practices.* You never reach the Body without Organs, you can't reach it, you are forever attaining it, it is a limit (Deleuze & Guattari, 1988, pp. 149-150, my emphasis).

In other words, one may change oneself from within through practice. However, Wittgenstein's language-games and the forms of life (1957) do not present such a possibility of deadly transformation. Indeed, the linguistic turn that Wittgenstein gives practice theory is mitigated through the ways in which one is able to talk about and explain practice. According to Wittgenstein (1957), the act of naming presupposes a whole set of circumstances that are already present in the practice. Changing practice according to Wittgenstein is therefore quite distinct from constructing a Body without Organs as the excerpt above details. Wittgenstein's ideas have evoked practice theories that emphasize the power of the practice as being a fundamental form of social organization. For example, Schatzki's (2002) practice theory sets practice apart as a primary way of doing things that often continues unabated in contexts, and in so doing can absorb subjectivities, intentions and direct action such as change. This is an understanding of practice that frequently dominates places of learning, as teaching methods may have been set up over many years and in this case, would be difficult to change. In this respect, Deleuze's ideas are convergent with activity theory (Engeström, 1999). Engeström (1999) was concerned with the ways in which collaborative action can lead to changes in systems. He gave agents the power to make a difference in systems by learning and by innovating new paths to practice. To this extent,

activity theory lends practice a means to escape from regimes of strict and repetitive practice. Deleuze (1994a) was also looking for such routes, and they should not be ignored with respect to understanding Deleuzian teaching and learning practice. In sum, the practice theory that is appropriate to this book corresponds to the experimental and constructive aspects of practice, and the aspects of practice that do not lead to hegemonic forms of power and life (e.g. militarism). Deleuze's position on practice is more closely aligned to that of de Certeau (1988), where practice and everyday life mingle in the narrative (re)creations of life.

Directly underneath, 'Practice theory', I have placed 'Community learning theory (constructivism)' in the radiating diagram (Figure 3). This aspect of Deleuzian teaching and learning practice comes from Deleuze's concern with the collective that arises especially in his joint publications with Félix Guattari (1984, 1988). Deleuze uses the term 'assemblage' to signify when groups come together, and theorists such as Manuel de Landa (2006) have taken this move to evolve a new theory of society. Deleuze complicates matters somewhat in that assemblages are machinic as well as collective, and the ways in which groups come together is therefore not just a function of anthropomorphism. For example, markets move people and can form assemblages that have power and influence in society. Machines and people can be joined together in machinic assemblages, where signs are communicated between living and nonliving parties. Assemblages can be loose connections between friendship groups as well as involving deep belief systems. The assemblage is therefore an extremely flexible unit of social organization, and one that depends on learning. The type of constructivism that one derives from Deleuze is, as Éric Alliez (2004) states at the end of his appendix on Deleuze's virtual philosophy, "at the singular point in which concept and creation relate to one another in the great identity, EXPRESSIONISM=CONSTRUCTIVISM" (p. 103). This constructivism is therefore not one that reifies community, or that sets apart the human construction of knowledge. Constructivism functions through expression by making concepts work for communities in context. The taxing aspect of this element of Deleuzian teaching and learning practice can be to get to this level, and not be continually sidetracked by external concerns, e.g. the directives of a government organised curriculum.

The other six radiating parts of Figure 3 are dealt with in the chapters that follow in this book. The educational unconscious (desire) comes through all of the chapters, as the ideas that are presented here should give rise to imaginative and creative responses to teaching and learning problems. For example, the designation of the educational life-forms in the title is an example of concept creation as has been discussed through the bacteria-hurricane machine above. This machine may give rise to pedagogy that explores the facts and mechanisms of bacteria and hurricanes, and a resulting wealth of mathematical and scientific ideas. On the other side of knowledge work, the bacteria-hurricane machine could be an inspiration for artistic, musical and written work. What would a bacteria-hurricane machine look like? What would it sound like? How could we describe its action? What would happen if a

bacteria-hurricane machine appears in the world? The conjunctive synthesis of the bacteria-hurricane machine therefore stimulates the educational unconscious and the desire of the learners to explore this new realm of knowledge. Deleuzian teaching and learning practice encourages inter and cross-disciplinary work, knowledge structures are opened up, and systems are analysed with the prospect of sustained thought and developing competency in virtual manipulation.

THE CURRENT LITERATURE IN THE FIELD

This book fits in with a growing body of knowledge and a new field of exploration. This field joins the philosophy of Gilles Deleuze with education, and, not surprisingly, this can lead to a variety of uptakes and new options for teaching and learning. For example, Diana Masny (Masny, 2006) has been working for several years on her conception of Multiple Literacies Theory (MLT). She has noted that critical notions of literacy derive a new energy and drive from the injection of Deleuzian theory, and this can be summarised by the phrase, "Reading, reading the world, and reading the self as texts," (Masny & Cole, 2009, p. 6). Deleuzian literacy studies therefore give new life to understanding the processes of reading, and Masny (Masny & Cole, 2009) illustrates this life with evidence taken from close empirical studies of children reading in and out of schools. In contrast, Inna Semetsky (2006) has aligned Deleuze's philosophy with that of John Dewey, and interrogated the new notions of becoming and learning that this Deleuze-Dewey machine evolves. Semetsky has also worked in the areas of semiotics, the unconscious and ethics and her theoretical ideas have definite consequences for teaching and learning. For example, the systems of signs that one intuits through pedagogy form a plane of becoming that Semetsky parallels with notions of care and ethical choice. Semetsky (2010) notes that Deleuzian theory gives a new way of integrating ethics into education without the potential moral interference of rigid Christian values.

In the area of knowledge construction, Kaustuv Roy (2003) has discussed the possibility of a rhizomatic curriculum. This curriculum involves discreet, subterranean connectivity that can make knowledge work for learners in terms of their desires being aligned in the activity of the assemblage. Taylor Webb (2009) has taken the Deleuzian notion of assemblage to analyse the ways in which teachers are divided and organised by power concerns. Patrick Carmichael (In press) has taken a similar tact when looking at higher education and how pre-service teachers are organised and work in projects using ICT and that involve collaboration. There has been a special edition of *Educational Philosophy & Theory* (2004)on Deleuze and Education, and an edition of *Qualitative Studies in Education* (2010) that examined the ways in which using Deleuzian theory has consequences in terms of doing qualitative research in education. Noel Gough has been working for several years in the field of Deleuze and education, and has produced exciting essays that show how Deleuzian theory can change the ways in which one perceives the tasks of education (Gough, 2004, 2007).

This book therefore sits in a heterogeneous field of concern, where the philosophy of Deleuze is creating new paths to approach education. This growing body of literature is also bordered by the ways in which Deleuze has been taken up by the social sciences, cultural studies and literary studies (see the Edinburgh University Press, 'Deleuze Connections' series). For example, the Deleuzian notion of affect has gathered interest in gender studies, as the ways in which bodies are conditioned and identities are formed may respond to pre-personal affects that rest in context beyond subjectivity (e.g. Grosz, 1994). This analysis of identity formation also has consequences in education that has recently begun to be influenced by notions of emotional intelligence from the work of Goleman (1995). Deleuzian affect is a non-representational way of understanding how emotions are communicated that explains gender difference not in terms of biology (or an EQ), but due to the ways in which circuits of conditioning are communicated in, for example, capital accumulation. The philosophy of Deleuze has also influenced subjects as diverse as economics, health studies and studies of human geography (e.g. Thrift, 2004; Cohen & Kratz, 2009; Bonta & Protevi, 2004). This book signifies a different way of using the ideas of Deleuze, which integrates and explores the primary and secondary literature on Deleuze with the intention of producing new educational life-forms and a robust Deleuzian teaching and learning practice.

THE CONTENTS OF THE BOOK

Chapter two introduces the philosophy of life to the benefit of the educational life-forms and Deleuzian teaching and learning practice. The term 'philosophy of life' is a reading of Deleuze that is supported by the secondary literature, and will be applied to education. However, this phrase is not without its controversies, which shall be explored in chapter two in terms of how one may use elements of Deleuzian philosophy in education. For example, the ways in which the meaning of life may be rendered when understanding the point of action has educational consequences. Deleuze gives a new twist to the meaning of life in that it is given a synthetic and vitalist impulse (see Braidotti, 2010). These turnings are included in chapter two, as well as drawing out four major influences on the Deleuzian philosophy of life, that of: Spinoza, Bergson, Marx and Nietzsche. Chapter three acts as a counterpoint to chapter two, and explores the results of applying the philosophy of life to existing education systems. This application unearths phenomena in the current systems such as normalisation, boredom, examinations, making changes in the system and becoming locked into place. Chapter three is not a fundamentally negative look at what is happening now in education, but draws out educational life-forms through Deleuzian analysis. This means that elements in systems analysis that might usually be overlooked such as boredom and normality are fore-grounded as ways of understanding the reality of contemporary education. The philosophy of life does not give neat or easy solutions to students becoming bored or normalised, but this analysis is a starting point to making a difference. Deleuzian teaching

practice, taken as a whole, can be applied to improve education based on the analyses that are contained in chapter three, and the themes of life, epiphanies, the virtual and affect as explained by the following chapters.

Chapter four introduces the notion of pedagogic epiphanies to the educational life-forms and Deleuzian teaching and learning practice. Deleuze does not specifically mention epiphanies in his work, but relies on works of literature (see Deleuze, 1997) and the act of writing throughout his oeuvre alongside philosophical ideas as a fundamental type of creativity. Pedagogic epiphanies are a powerful way of understanding the processes of bringing the educational life-forms into existence, both in terms of a process and crossing points between life and education. Three narrative studies will be used in this chapter to illustrate pedagogic epiphanies, and to show how three individuals have evolved strategies to work with particular educational life-forms. Chapter five complements chapter four, as the Deleuzian notion of time is critical to understanding how pedagogic epiphanies work. Furthermore, the notion of time in Deleuze's philosophy requires an understanding of the virtual and the way in which Deleuze took this notion from Bergson (1994) and Nietzsche (1956). The virtual is a construction of time where the present is enlarged through application of the *élan vital* in *durée*, encouraging contemplation, multiplicity and sustained thought. To demonstrate the use of the virtual in education, I have floated this Deleuzian notion alongside the use of virtual reality (VR) as a learning tool. Virtual reality enlarges the present through the construction of new electronic worlds, Deleuzian teaching and learning practice takes us into (an)other space through epiphanies, the virtual and affect.

Chapter six looks at the common claim that teaching and learning is all about building relationships (cf. Albrecht-Crane, 2005). This chapter adds to this claim by introducing the Deleuzian notion of affect into pedagogy, which has been latterly discussed in the educational literature as constituting a form of ethology (e.g. Zembylas, 2007b) or relational nexus from Spinoza. I have played with this idea and invented a 2-role model of affect from Deleuze, as an example of double articulation with respect to teaching and learning and the educational life-forms. The first role of affect concerns the practice of philosophy in education, the ways in which language carries 'the truth', and how this plays out in pedagogy. The second role of affect is involved with the socio-cultural consequences of using language in pedagogy and how teaching and learning relates to group dynamics. It is argued in chapter six that in order to build relationships in education, educators should be able to deploy both roles of affect. The first role attends to a teacher's use of language and power, exemplified by classroom management, and Deleuze and Guattari's 'order-words', the second role develops relationships between the atmosphere of the class and any requisite knowledge work. The last chapter in this book examines several practical applications of the educational life-forms and Deleuzian teaching and learning practice. These applications include lesson planning, building curriculum, timetabling and issues to do with the teacher's labour and capital flows in education.

CONCLUSION

This book is designed to be a practical and effective means to change education. The use of the philosophy of Deleuze could lead one into metaphysical speculation about what exactly he was talking about at any given point in his career. Whilst this speculation would not be without its pleasures, it does sidetrack the point and focus of this book. One needs to engage with Deleuze's oeuvre and the fecund and emergent secondary literature in the field of Deleuze studies, whilst being strong and single minded with respect to Deleuze and education. This book takes from Deleuze what is necessary for the purpose of making changes happen in education. In Ian Buchanan's (2000) terms this book enacts a type of Deleuzism as an applied instance of using Deleuze's philosophy. Buchanan (2000) wished to avoid the somewhat looser formulations of Deleuzian thoughts as they have recently appeared. The danger of Deleuzism is that the take up of Deleuze as a consistent philosophical system is often contradicted by the writing itself. This is because Deleuze was against making a conformist herd formation around his ideas. It could be stated that the philosopher didn't want a political Deleuze party to sing from the same hymn sheet at a Deleuze party conference. Rather, Deleuze was concerned about the freedom to think and write art, philosophy, science and politics. This book takes a similar line with respect to the uptake of Deleuzism in education. The challenge of the educational life-forms and any subsequent Deleuzian teaching and learning practice is to put the ideas of this book into action. This process should not be a slavish and regulated implementation of homogenised directives, but an engagement with the genuine challenges to thought in education.

THE PHILOSOPHY OF LIFE

INTRODUCTION

This chapter will present a philosophy of life that is suitable for the educational life-forms and teaching and learning practice. There are many scholarly debates and issues that arise from naming a Deleuzian philosophy of life in the first place. For example, Claire Colebrook (2010) has recently published a book entitled, *Deleuze and the meaning of life,* which affirms Deleuze's life enhancing properties by proposing a conception of passive vitalism. The question of the meaning of life is at the heart of many philosophical systems, and the Deleuzian interrogation of philosophy, helps to steer us away from the types of a priori syntheses that we find, for example, in Kant (1933). For Kant, the meaning of life rests in these a priori syntheses, as they are thought processes that are able to contemplate the big questions in life such as its meaning. Kant's system rests on the possibility of transcendental idealism, which Deleuze does his best to outmanoeuvre with recourse to Spinoza, Nietzsche, Bergson, Hume, etc. Deleuze does not want the subject to solely impose form on the world, yet retains a space for transcendence in his ideas, in that his notion of the 'plane of immanence', or the conjunction 'desiring-machines' include the possibility that these ascriptions may 'take off' and begin to mean all sorts of other things. The Deleuzian meaning of life therefore comes about in a complex and sometimes convoluted manner, with the ways in which language and the categories that one might ascribe to usages of language undoing themselves in a type of dance. This dance, one might want to argue, is akin to understanding the meaning of life.

Colebrook's (2010) passive vitalism is a neat way to understand this. The subject is undone through the Deleuzian philosophy of life in that vitalism exists squarely in the world, giving 'life' to all sorts of objects beyond human consciousness. The passive aspect of the thesis is that the meaning of life happens to these objects in the world, and in and via their propulsion through vitalism. Passive vitalism nullifies a concern for the will and the drives that one might want to take from Deleuze's reading of Nietzsche and add to this philosophy of life. Colebrook (2010) argues to retain the passivity of vitalism in that the automatic and habit forming parts of the meaning of life that are sometimes visible and comprehensible through the unconscious are included. Yet one might want to question the veracity and actuality of this passivity. Deleuze consistently argues that to make things happen in philosophy and life one has to raise consciousness, and to "punch holes" in reality (e.g. Deleuze, 1994a). These arguments are very different from a passive vitalism. Yet with reference to the educational life-forms and teaching and learning

practices, which are the objects of this study, passive vitalism does hold some ground. It could be argued that the meaning of life in education comes about through looking at how teaching and learning manipulates dominant forms and meanings: for example, the ways in which post-industrial countries currently manipulate the meaning and impact of democratic government through schooling and citizenship studies. Passive vitalism states that these meanings are drilled into us through state run educational practices. We may find other meanings to the question of government, despite our passivity, by looking at history and global-political formations where societies have been run differently. We may also imagine a different future, where education is not necessarily run by state governed bureaucracies to the benefit of big industry.

DELEUZIAN PHILOSOPHY OF LIFE

The question of the meaning of life has also made its way into educational thinking in the guise of an ecological model of classroom behaviour and functioning (Bronfenbrenner, 1979). This model, which has become pervasive and powerful when analysing educational complexes, states that the ways in which children behave in classrooms is directed by the whole ecosystem in which they exist and have existed. This ecosystem is a complex and changing entanglement of culture, values, ideas and societal tendencies that the children are continually synthesising and renewing through developing identities. Giddens (1989) has defined this entanglement as:

> …culture [which] concerns the *way of life* of the members of a given society – their habits and customs, together with the material good they produce. Society refers to the *system of interrelationships,* which connects together the individuals who share a common culture (p. 31).

Educational life-forms also place life at the heart of education. However, the difference that this book attends to as a whole is that the ecosystems that students exist in are not *only* productive of behaviour(s). The ecosystem of education relates to everything that the student thinks and desires in an emergent and interactive way. To articulate and understand the reciprocal, power-based and changing relationships between life and education, and that are central to the educational life-forms, I have turned to the philosophy of Gilles Deleuze, and the ways it has been characterised as a philosophy of life (e.g. Colebrook, 2010). The choice of Deleuzian philosophy as the basis for educational life-forms points to the fact that philosophy may be used to link learning with bio-physical and cultural energies. This philosophical system is in part a rereading of the history of philosophy in the light of finding a way through many of the divisions, prejudices and dead ends with respect to applying notions of life to fields such as education. Deleuzian philosophy is also a way of understanding social behaviour through a

creative and imaginative hypothetical context, a context that has, for example, the potential to link unconscious desires with economic and educational constructs (see Deleuze & Guattari, 1984). Furthermore, the Deleuzian philosophy of life importantly includes thought that revolves around death, and inanimate life such as computers, that significantly influence contemporary learning scenarios and where we now find-educational life-forms.

The question: What are educational life-forms? is primarily mediated through the Deleuzian philosophy of life in this book. This mediation does not sublimate or reduce the energy and power of the proposition of educational life-forms, in that understanding and applying the philosophy of Gilles Deleuze gives numerous benefits to teaching and learning practice, and focuses the idea of life in and through education. The first and most prescient advantage to the Deleuzian philosophy of life is that the field of operation that we work through is opened up. In contrast to the forms of 'pro-life' philosophy that could be understood as an aspect of moral perception and discipline that determines what is regarded as important in education, i.e., human life (see Slee, 1995) above everything else; the Deleuzian philosophy of life does not set up a humanistic or moral backbone to educational practice as a form of control. Rather, the philosophy of life from Deleuze acts to include new and unexpected elements in the frame of operation. This inclusion counteracts moral closures such as those contained in and proposed by humanism. Questions about childhood and adolescence are given a new focus according to the Deleuzian philosophy of life. For example, the development of character and the personality alignment of children is not set against normative human templates of taking responsibility for one's actions or holistic (balanced) learning (e.g. Maslow, 1943). In contrast, life itself is seen to be at the heart of character development according to the Deleuzian philosophical frame. Life can be wicked, unpredictable, immodest and cruel if one takes a wide perspective. Children are therefore reset according to this philosophical designation of life, capable of greater and perhaps more striking action, and also less likely to be branded as abhorrent, transgressive or 'other'.

The Deleuzian philosophy of life has secondary advantages and benefits. These follow on from allowing greater and sometimes more chaotic elements into the teaching and learning context. For example, teachers have improved options in terms of what they can teach and how they can teach these subjects. This tendency, according to the Deleuzian philosophy of life, should lead to more flexible teaching and learning. In contrast to following a highly scripted curriculum, or one set syllabus for knowledge construction, the suggestion here is that teachers may cut and paste from the ionosphere of signs and symbols that beset us in the media dominated world (see Pullen & Cole, 2010). Teachers of subjects such as English study can incorporate any text from the media, as well as the classics of the canon, in order to build the requisite understanding of text in their students. This tendency has been well

documented through the critical literacy movement (e.g. Janks, 2010), and this has already made a positive difference to the lives of English teachers, in that they can now choose from a greater range of contemporary and historical texts than in the past. The extra difference that using the Deleuzian philosophy of life gives to the workings of English teachers and their students is that the text choice is not only increased, but the focus and way in which the texts may be used is also focussed and tied to the energies of the group (life). Critical literacy gives the teaching of English extra purpose and range, the Deleuzian philosophy of life, by attending to the affect in texts, adds depth and desire to this impetus (see Cole, 2009a). English teachers should be attentive of the political and social dimensions of the texts under study, they should also be able to attach narrative and affective through-lines to the texts to make a linkage between the teacher, students and contemporary (mediated) impact in society.

Teachers of subjects such as chemistry, for example, may wonder how the philosophy of life applies to their area of specialisation. The teaching and learning of specialist knowledge areas is not excluded from educational life-forms, but their frames of reference are expanded to include the ways in which this knowledge can be used to consider the consequences of manipulating this knowledge. These techniques are well known in terms of making abstract knowledge relevant and applied (see Greeno, 1998), the difference that using the Deleuzian philosophy of life brings to the frame is that this process is opened up and further expanded. Chemistry teachers should be encouraged to make links to other subjects such as geography to understand the spatiality of their subject, or poetry in terms of the aesthetic and potentially spiritual nature of abstract knowledge (see chapter 7). Educational life-forms are about making these connections on every level between knowledge fields, plusfocusing on how to get these fields across with respect to new pedagogy. This pedagogy may include studying the environmental impact of the industrial production of chemicals, or analysing the social and cultural consequences of using chemicals as a ubiquitous part of everyday manufactured life and death. The point of the educational life-forms in teaching and learning is to make knowledge animated and accessible. Educators should therefore engage in research about the connectivity of their knowledge fields, and in finding new ways to present these connections (I have include examples of lesson plans that demonstrate such connectivity in chapter 7). This work has the effect of making the transmission of knowledge and resultant pedagogy more akin to life:

Living organisms are autopoietic systems: self-constructing, self-maintaining, energy-transducing autocatalytic entities. They are also systems capable of evolving by variation and natural selection: they are self-reproducing entities, whose forms and functions are adapted to their environment and reflect the composition and history of an ecosystem (Harold, 2001, p. 232).

The immanent problem in education is that the ways in which teaching and learning happens is often not programmed to the rhythms of living organisms. Mechanised systems of curricula outcomes, professional handbooks of practice and idealistic learning aims have, to varied extents, made the ways in which teaching and learning happen artificial and contrived. It is as if educational planners have envisaged a great teaching and learning machine, and have decided to process the students through this mechanism. The contrivance of the machine is put under pressure through the application and use of educational life-forms. This is because life-forms take the forms and styles of learning that are present in any context, and (re)presents them in an organic and augmented order. This organic order is, however, not comprehensible as necessarily 'natural' as the Deleuzian philosophy of life includes unnatural and disparate elements that are vital parts of the ways in which we may experience the passages of life (and death). Deleuze (2007) illustrates this point well when he is speaking about immanence in his last essay:

> …A Life?...No one has described what *a* life is better than Charles Dickens if we take the indefinite article as an index of the transcendental. A disreputable man, a rogue, held in contempt by everyone, is found dying. Suddenly, those taking care of him manifest an eagerness, respect, even love, for his slightest sign of life. Everyone bustles about to save him, to the point where, in his deepest coma, this wicked man himself senses something soft and sweet penetrating him. But to the degree that he comes back to life, his saviours turn colder, and he becomes once again mean and crude. Between his life and his death, there is a moment that is only that of a life playing with death (p. 391).

It is clear in this excerpt that Deleuze (2007) is speaking about something apart from the 'natural order'. Dickens' novel *Our Mutual Friend* confronts death in supple and original ways. This scene that is referred to in this excerpt is at once ironic, strange, troubling and hilarious. There is an inevitable shuddering that takes place in the mind of the reader as one's character is revealed. It could be said that we are all too easily repulsed and attracted by the position of the rogue. We may become positioned as part of the crowd; our emotions are being manipulated and ultimately torn apart, as we begin to comprehend the point of the anecdote. This point is that the philosophy of life is not just about trying to find out what is natural and organically determined. The process involves the point between life and death, where multiple characteristics are realised and possible. Bradley Headstone, who dresses as Rogue Riderhood in the novel, is a schoolteacher by day and a charlatan by night. He possesses two characters that are revealed simultaneously in his passage to death as a sign of his life. At once fascinating and absurd, Headstone tumbles into death as the anonymous villain that Dickens portrays through Riderhood and in the excerpt above[1]. Yet Headstone is a vital marker for the work of art as a whole. Through Headstone,

ambition and destiny are joined. Deception and 'unmasking' are revealed. Headstone is a *way of life*.

This is one of the characteristics of the Deleuzian philosophy of life and by degrees, the educational life-forms of this book. This characteristic is not a static or sedentary philosophy, based on sentinel markers of what life is and what it is not. The proposition is that the *passages* from life to death, such as the near death of Riderhood and the character of Headstone in Dickens, tell us about the processes of life. Deleuze's analysis in the text above tells us that there are ways out of the situation that inform us about the workings of 'a life'. A life is here a transcendental example, something that takes us to a limit point about our lives, and back again if we complete the circle in terms of adding our positions as spectators. The Dickensian text is full of unlikely coincidences and series of paradoxes about how life and death come together and are thrown apart (see Deleuze, 1990). If we take these processes and apply them to teaching and learning contexts, it is clear that limit points in education tell us more about how the system works than, for example, the analysis of normatively bound and expressed 'best practice'. To cite an occasion when schools have shut down for a few days due to bad weather and latterly reopen; it could be said that there is disruption to the teaching and learning cycles during these periods. This is because the learning ecosystems of the students have been interrupted and a new middle introduced. This new middle is full of whatever the students were doing on their days off. Teachers must therefore find ways to engage with this new middle before reactivating course content and the pedagogic processes of their subject areas. The educational life-forms are quickly transformed through the days off, and the intentionality behind the school-backed curricula may be lost due to the intervening teaching and learning that takes place.

Deleuze's philosophy of life is importantly an amalgam of philosophical ideas and tendencies that I shall outline below in terms of four major thinkers that permeate his oeuvre:

Bergson

Deleuze (1991) and others have revived interest in the work of Henri Bergson, even though his ideas have often been scorned and set aside by many in the philosophical and scientific communities. His philosophical writings revolved around finding ways through questions about matter and memory, evolution and time that lend themselves to his core ideas of the *élan vital* and *durée*. The élan vital and durée are vitalist notions that have been misunderstood as having non-material elements that might lend themselves to a type of mystical agency. Indeed, Bergson compounds this misunderstanding with reference to Christian mystics, who he describes as being superabundant with activity, action and creation (Bergson, 1977). However, the élan vital and durée are clearly bio-chemical, material processes connected to non-mystical life. Deleuze (1991) gives us a visual representation of these ideas taken from chapter 2 of Bergson's *Creative Evolution* that acts to show how this vitalism works (Figure 4)

Matter
relaxation/expansion
[détente]

Memory-Duration

The different worlds, and in each world, the
types of matter that appear as the many
external and internal obstacles that life must
avoid.

Fixation of carbon

Plant: chlorophyllous function
(accumulation of energy in a
continuous fashion, storing up
explosives).

Fixation of nitrogen

Life (contraction)

Animal: nervous system
(expenditure of energy in a
discontinuous way, detonation
of the explosive).

Decentralised nervous
system: Instinct

Centralised nervous
system: Intelligence

Exteriorisation and
domination of matter
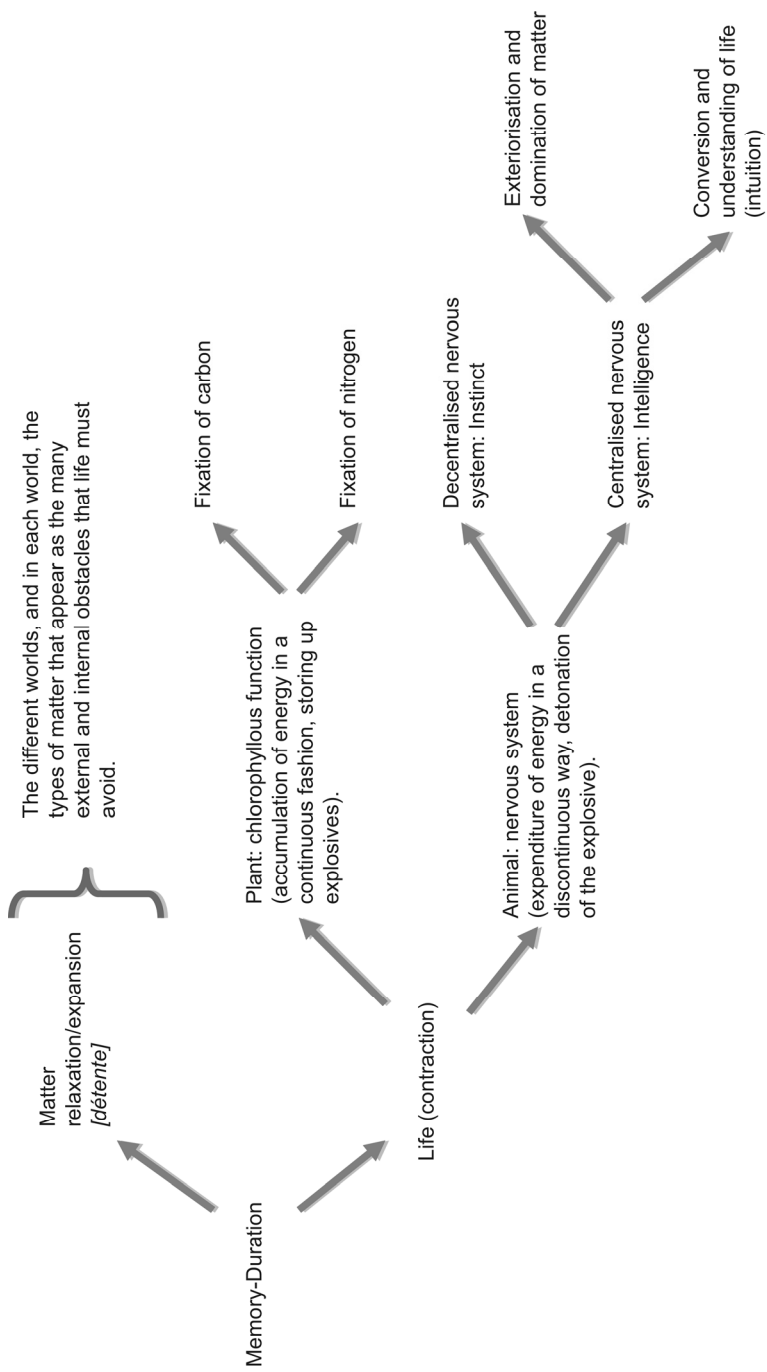
Conversion and
understanding of life
(intuition)

Figure 4. Summary diagram of differentiation (Deleuze, 1991, p. 102).

One could perhaps become lost in the complex abstract argumentation that accompanies and justifies Bergson's ideas and characterises his style of writing. However, the important job of this book is to extract what is necessary to furnish an understanding of Deleuze's philosophy of life that is appropriate to the educational life-forms and for teaching and learning practice. According to this diagram (Figure 4), life proceeds through a series of differentiations that takes us from memory to intuition. One could say that we are all inside the processes of evolution, but consciousness has granted us a way of joining the ends of the processes, so that intuition may also lead back to memory. Durée appears here as an aspect of memory, so that the processes of differentiation build from the ways in which time and memory work together. Life as contraction includes the élan vital as an explosive force, both in plants and in animals. In the central nervous system, understandings of life may develop, that are here differentiated from the domination of nature as such. Again, there are many further philosophical distinctions and clarifications necessary for this argument to work that are not relevant to the life of this book. Other commentators have taken Deleuze's engagement with Bergson and tracked the arguments with reference to evolution theory, modern biology and contemporary philosophy (e.g. Ansell Pearson, 1997, 1999) in detail. We want to understand how vitalism informs educational life-forms, and teaching and learning practice.

The main point that we may gain from the diagram above (Figure 4) is an understanding of life as contraction. Teaching and learning practice proceeds in this way if one analyses it as a biological and material process. One may divide teaching and learning practice further and further until one comes to a type of intuition with respect to what teaching and learning is about. This intuition is connected to memory, that is also duration, or time when one is able to stop the ways in which life's mutation proceeds through mental action, and look at life 'from the inside'. This insider view of life requires an energy that one may call the élan vital or vitalism. This energy fills out and creates the educational life-forms, and works alongside and through Deleuzian teaching and learning practice as a materialist means to performing action research (e.g. Cohen & Manion, 1989). Teaching and learning are therefore fully a part of life according to this schema (Figure 4), with a definite set of parallel tactics to gain insights into what is happening (I have termed this process as pedagogic epiphanies and creating (an)other space in chapter 4). These tactics define Deleuzian reflective practice that avoids the mirror stage or any psychoanalytic evaluation of performance.

The focus on intuition that we may gain from analysing Deleuze's (1991) *Bergsonism* has previously been translated into educational thought. For example, Semetsky (2006) has floated Deleuzian intuition alongside his rendering of becoming and the unconscious to enhance educational thought as a form of mobile and nonessential semiosis. The difference that is presented in this book, and for the benefit of educational life-forms, is that intuition is a method that generates exact rules to be followed:

1. Apply the test of true and false to problems themselves. Condemn false problems and reconcile truth and creation at the level of problems (false problems are of 2 sorts, 'non-existent problems' defined as problems whose

very terms contain a confusion of the more and the less; and 'badly stated' questions, so defined because their terms represent badly analysed composites).

2. Struggle against illusion, rediscover the true differences in kind or articulations of the real (the real is not only that which is cut out according to natural articulations or differences in kind; it is also that which intersects again along paths converging toward the same ideal or virtual point).

3. State problems and solve them in terms of time rather than of space.(Deleuze, 1991, pp.15-31).

These rules may stand in contrast to how Deleuze's philosophy could be described as designating rule-breaking or subversive properties (e.g. Mazzei & McCoy, 2010). However, if weapply this perspective on intuition, it is clear that intuition cuts through many of the ways in which the truth may be discovered in education. Problems are themselves designated as the focus of investigation, rather than the outcomes of problems, such as, for example, inattention, failing grades or misbehaviour. Teachers as investigators therefore need to carefully state and restate the problem, getting rid of any unwanted problematic from the frame of analysis. Once a true problem in education has been discovered, the real may be articulated and the solution expressed in terms of time. For example, a problem with understanding the curriculum may be linguistic or conceptual. Teachers and students should discuss the problem in terms of the ways in which linguistic and conceptual misunderstandings of the problem can cause illusion. Finally, the solution to the impasse should be framed in terms of time, and the layerings of time in terms of how one's thought processes might work when going back over or revisiting the problem. This method, which we may derive from Deleuze's reading of Bergson, is about activating the memory in education beyond short-term examination revision, and consequently using learning-time constructively as a type of virtuality (please see chapter 5). Teachers and students may employ a vitalist impulse to get into the problems at hand, and investigate the subject matter in depth to produce satisfying and continually modified teaching and learning results. Educational life-forms importantly engage with intuition, and prioritise memory, duration and a vitality in thought that ultimately lead to the ability to be able to recognise and to name qualitative multiplicities (see Cole, 2009b), such as those designated by intelligence, literacy or learning styles. In this way, the vitalism in teaching and learning from the Deleuzian philosophy of life, may lead to continuous feedback loops. This is not 'lifelong learning' as the context of learning is prioritised; vitalism always leads back from virtual constructions of memory and thought to singular points of 'the real' where the group and individuals are learning in time.

Marx

The second name in these major bedrocks in Deleuze's philosophy of life, and one that contrasts with the scientific-philosophical influence of Bergson, is that of Karl Marx. Marx is especially relevant to the educational life-forms, because his ideas surface in the first two joint volumes that Deleuze wrote with Félix Guattari (1984, 1988). Perhaps the appearance of Marx was in part down to the influence of Guattari on Deleuze, yet it was also inevitable that they would turn

to Marx in order to understand the workings of capitalism, as this is an objective of the two works. The highly ambitious aspect of this two-book project was to connect Marx's analysis of capitalism with unconscious desire. In so doing, Deleuze and Guattari read the processes of schizophrenia in a new way, one that takes the lid off psychiatric interpretations of madness, and one that involves foregrounding 'the social'. Education is very much involved and part of these social processes, so the influence of Marx on Deleuze's philosophy of life is pertinent and relevant when translating the Marx of *Anti-Oedipus* and *1000 Plateaus* into the concept of educational life-forms and teaching and learning practice.

Deleuze & Guattari's (1984) position on historical materialism was that it is not a linear series of events leading to proletariat revolution, but that history is a non-linear process of explosions and diminutions. Populations do respond to the forces of history by trying to accumulate more capital, they also lose capital and can pay no attention to capital (even though it is always present in their lives to some extent through partial or virtual relations as we live within a capitalism system). Deleuze and Guattari (1984) borrowed from Althusser (Althusser, 1977; Althusser & Balibar, 1977) in terms of his interpretation of the superstructure in Marx's account of history. The superstructure holds together the means to production via the economic stance, whereby ideology can potentially liberate one from the servitude of capitalism. This type of ideological revolutionary thought is critical to the ideas in *Anti-Oedipus*. For example, the project of collecting and analysing monstrous others in *Anti-Oedipus,* that act as an outside to capitalist modes of production assumes the stability of this outside. The historicist superstructure from Marx is henceforth a bodily manifestation of otherness in *Anti-Oedipus*, represented by Judge Schreber, Antonin Artaud or William Burroughs as the body-without-organs. Deleuze & Guattari (1984) therefore keep Althusser's ideology, though transpose it into a deformed and internal event as other. This otherness is carried forth through surplus value, and into the axiomatics of capitalist modes of production. The thesis of the Marxist influence on the philosophy of life is therefore not that history becomes irrelevant, but that, for example, savage modes of production such as coding are put forward and transformed in contemporary social life. These codings may influence and permeate the educational life-forms as teachers engage with contemporary capitalism culture in their teaching and learning. For example, fashion models sport tattoos as the latest trend and simultaneously sell products, lifestyles and body images. The biggest selling teenage books are about vampires that transpose everyday life into scenarios where monstrous others live amongst us. *Anti-Oedipus* describes these events as connecting devices between capitalist modes of production and the unconscious: savage codes present revolutionary forces, emptying out Lacan's Symbolic Order and marking out territories of psychosomatic energy and their concomitant flows. Teachers and students may negotiate these territories and their resultant energies as they interpolate between spheres of contemporary culture and the classroom. This means to production also tells us a story about the social that we may engage with through educational life-forms and the historic yet entirely relevant labour pyramid (Figure 5). The everyday job of teaching and learning in many ways sits at the bottom of the labour pyramid, though many of the organisers and commentators reside

on the rungs above due to residual or accumulated capital. This figure (5), that was produced over a hundred years ago, is still pertinent today, as the forces of differentiation and division that act through capitalism still flow through and often determine educational life-forms. The teaching and learning that happens in classrooms is a conduit for capital flows, that require defined objectives, efficiency and accountable performance, and these can be understood according to the labour pyramid:
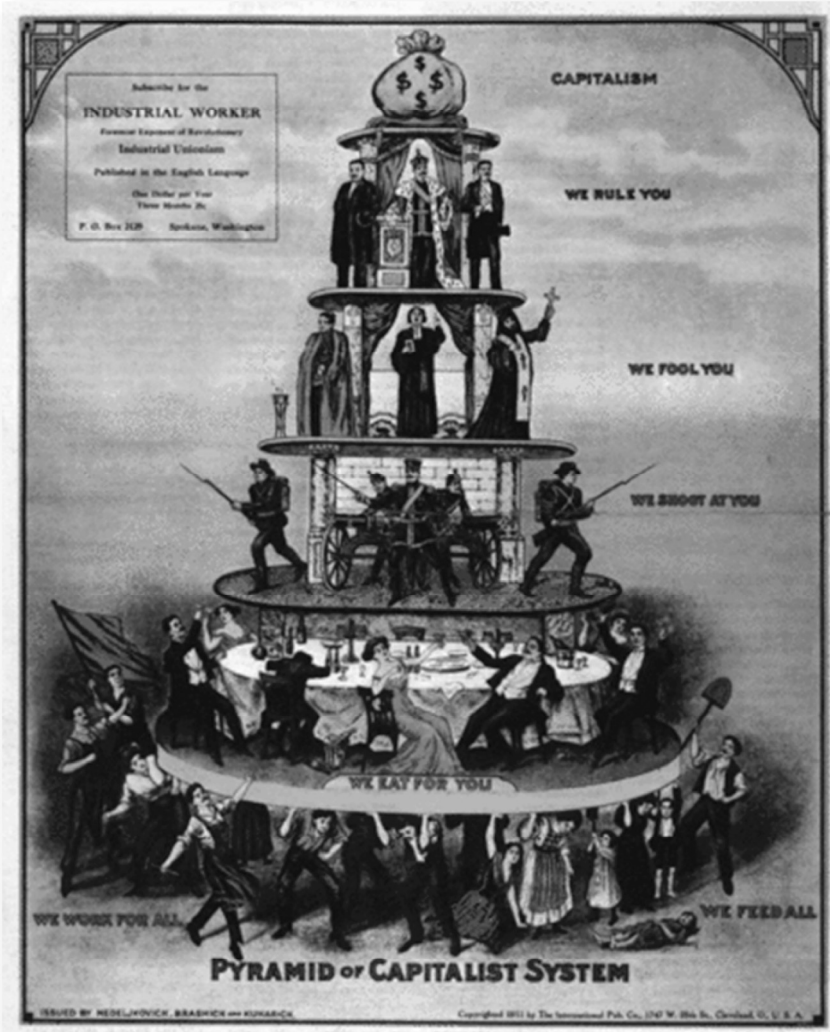

Figure 5. Anti-capitalist poster (1879) – published by the 'Industrial Union'.

This pyramid of the capitalist system (Figure 5) is updated and transposed into a cybernetic machine in *1000 Plateaus* of Deleuze and Guattari (1988). This machine makes up a representation of globally connected capitalism. It could be said that cybernetics is non-reductive as it is a "wholly abstract framework of a general system theory" (Mullarkey, 1999, p. 78), given the empirical and chaotic elements of the framework as non-organic life may also take on a life of its own according to Deleuze (an open systems theory or machine). This type of cybernetics also helps to explain the politics of the philosophy of life that rests on Marx's (1976) statement: "Capitalist production seeks continually to overcome [these] immanent barriers, but overcomes them only by means which again place these barriers in its way and on a more formidable scale. The *real barrier* of capitalist production is *capital itself*" (p. 50). The immanent barriers of the capitalist system of which education is a vital part, are explained as a means to production in *1000 Plateaus*, or as a cybernetic appropriation and play of force. This play of force works through the educational life-forms and animates Deleuzian teaching and learning practice. The problem of capital is dealt with by capitalism when deploying abstract machines that organise and reorchestrate debt structures and virtual loans. These machines are immanent to contemporary social life, and organise nexus points of control and submission that divide and subjugate life. In *1000 Plateaus* these points become entangled with state-run mechanisms, war machines and machinic enslavements such as watching television or using a computer. State control of social life in terms of the construction of an apparatus of capture of the 'socius' through history comes in for particular attention in *1000 Plateaus*, which has made some wonder about the *realpolitik* behind Deleuze's philosophy of life (see Patton, 2000). Yet the overwhelming message from Deleuze is to question capitalist modes of production, not only through critique and transcendence, but by activating forms of nomadism, that burrow through sedentary overlays of capitalist codes and subjectivation immanently. Deleuze and Guattari (1988) call this process rhizomatics (pp. 3-26) in the introduction to *1000 Plateaus*, and rhizomes are characterised as subterranean connections and a potential form of sporadic politics. This politics is fully applicable to educational life-forms and the purposes of this book, which are to represent Deleuzian teaching and learning practice. The educational life-forms cannot work in isolation, and by bringing the influence of Marx into the fold of their construction, and through this we may begin to realise the potential for a social movement

The Marxian influence on the philosophy of life is not a straightforward anti-capitalism (see Rikowski, 2004). The books *Ant-Oedipus* and *1000 Plateaus* recognise the potentially negative influence of capitalism on life, yet do not directly posit a communist revolution or a new (coming) era of socialism as the solution. *Anti-Oedipus* retains revolutionary energy as a means to processing the facts of capitalism on the self, whereas *1000 Plateaus* marks out a plane of immanence that runs through capitalism in time and shows us how to traverse and exist on this plane. The Deleuzian philosophy of life includes Marx as an important social thinker, but resists the tendency to put his analysis into action in terms of a

violent *coup d'état*. Instead, the philosophy of life works through the educational life-forms of this book, and these are brought about in Deleuzian teaching and learning practice. Teachers and students should read and understand Marx, and contemplate how capitalism impinges upon their practice. They need to look at how capitalism can sit in their imaginations and alter their desires. The most intense and committed part of the thesis that we may derive from the influence of Marx on the Deleuzian philosophy of life is to use the analysis of teaching and learning to change practice. This developmental aspect of teaching practice can be theorised with recourse to Deleuze and Guattari's (1988) smooth space and the resulting politics of affect and becoming that their social semiotics implies (see Zembylas, 2007a).

Spinoza

The third influence on Deleuze's philosophy of life that I shall include to illustrate the ideas that uphold and determine the educational life-forms is that of Baruch Spinoza. In the history of western philosophy, it could be stated that the figure of Spinoza stands out as a beacon of antipathy and fascination. For example, his arguments with respect to the unity of substance were famously disputed by G. W. F. Hegel (1977) in order to found the latter's notion of dialectics. Logical positivists such as Bertrand Russell (1932) have disqualified Spinoza's holistic approach to the functioning of the mind, and disputed the prioritization of affect as the basis for reason because of the resultant "philosophy of mysticism" (p. 61). The focus for this book lies in understanding how Spinoza has influenced Deleuze, and how this influence plays out in terms of the philosophy of life and the educational life-forms. The single most important contribution to Deleuze's philosophy is in his appropriation from Spinoza of affect(s). This conception of affect underpins many of Deleuze's ideas throughout his oeuvre, and it could be said to be a revolutionary part of his philosophical system. The following quote serves as a dramatic turning point in order to understand Deleuzian affects and the difference that one may achieve through their application in the educational life-forms:

> […] The regime of the war machine is […] that of affects, which relate only to the moving body in itself, to speeds and compositions of speed among elements. Affect is the active discharge of emotion, the counterattack, whereas feeling is an always displaced, retarded, resisting emotion. Affects are projectiles just like weapons. Deleuze & Guattari (1988, p. 400).

Through this brief passage one may begin to apprehend the positioning that is being proposed in this book in terms of affect, educational life-forms and Deleuzian teaching and learning practice (please see chapter 6). Deleuze & Guattari (1987) took their notion of affect from Spinoza, and for Spinoza, all power is inseparable from a capacity to affect and a simultaneous capacity of being affected – this constitutes what has been called "mutating substance that corresponds to the essence of modes or affections" (Parisi, 2004, p. 30). Spinoza's affects entail the colliding of particle-forces, delineating the impact of one body on

another - which could also be explained as the capacity to feel force before subjective emotion is actualized. An example to illustrate the educational life-forms and Deleuzian teaching and learning practice would involve teachers of literature, who utilize the affects that they can extract from literature to help change social/cultural situations in schools that are also full of non-literary affects and relationships with others. For example, an inquiry into racist language, which could be achieved through the study of *To Kill a Mockingbird* (Lee, 1960) - constitutes an exploration of affect that also includes humour, language, discrimination, class and power. However, it could be stated that, "one doesn't really know what discrimination is like until it has happened personally". The teacher could set up situations where students feel the impact of offensive language as a contextual grounding to the academic understanding of this text. The educator will employ affects in this instance to explore the theme of racist language and to examine how characters in the text relate to it. Students could write and perform monologues and dialogues from the perspectives of the characters in the novel that articulate reactions to the affects of racist language. This example shows how the Spinozist influence on Deleuze could be used to create educational life-forms and consequent Deleuzian teaching and learning practice.

Deleuze appropriated Spinoza's affects, and applied them as being dynamic, paradoxical and connected to power concerns on all levels. The positive force of affects are very much emphasized in Deleuze's writings, even in the capacity to be affected – which could also be understood as a structural ability to change under influence from *the other*. It should be mentioned that affect is being linked to the communication of intensity through the Deleuzian philosophy of life - with the objective of taking the idea of affect away from a subjectively-bounded notion of emotion and therefore making it suitable for social and mediated affects. Brian Massumi (2002) has explored this idea by taking Deleuze's notion of affect and using it in his analysis of the virtual world of the media to the benefit of cultural studies. This exciting work has resulted in statements about Deleuzian affects such as:

> Affect is [this] 2-sideness as seen from the side of the actual thing, as couched in its perceptions and cognitions.

> Affect is the virtual as point of view, provided the visual metaphor is used guardedly.

> Affects are virtual synaesthetic perspectives anchored in (functionally limited by) the actually existing, particular things that embody them.

> Affect is autonomous to the degree to which it escapes confinement in the particular body whose vitality, or potential for interaction, it is. (Massumi, 2002, p. 35).

If one takes these propositions from Massumi (2002) and synthesize them further, one may come up with a visual representation of social and mediated Deleuzian affects to use for the educational life-forms and teaching and learning practice (Figure 6):
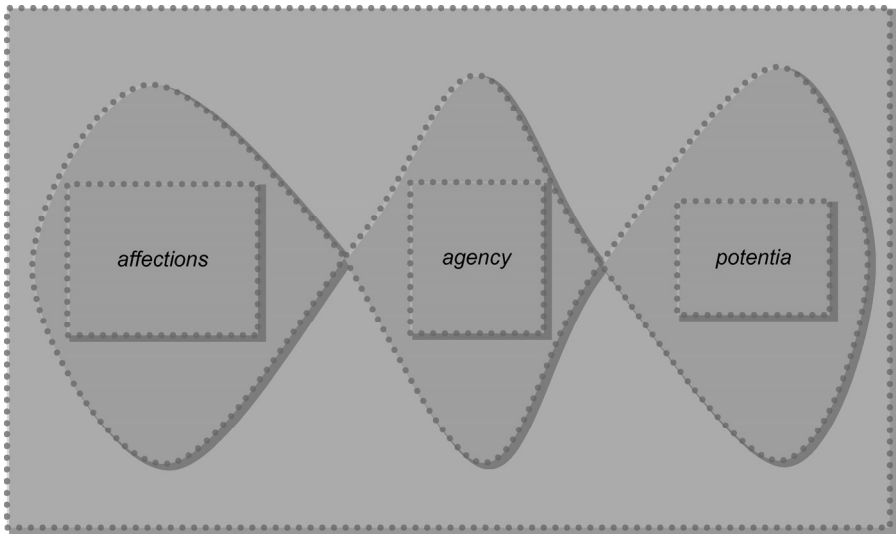
Figure 6. Massumi's (2002) interpretation of Deleuzian affect as represented by the continuous flexible string. This diagram shows the connective nature of affect - it should be noted that the scale and velocity of movement around the string of affect is variable. Agency is not restricted to individuals, though they are also not excluded as Massumi's affects are designed for use in understanding the media and can be deployed for the educational life-forms and teaching and learning (please see chapter 6).

The educational life-forms are intimately connected to the Deleuzian notion of affect as derived from Spinoza and as seen in figure 6. Philosophers such as Lloyd (1989) have taken this idea to infuse the mind with physical force and sexuality, as the Spinozist positioning of affect us with power leads one away from desexed, disembodied ideas. In fact, everything that the mind can think is tied to the body in the affective figuration of bodily ideation, so, for example, Deleuze & Guattari's (1984) body-without-organs reflects a body locked up and self-replicating in terms of producing streams of internal thoughts without external release. In education, this body may be conceived through closed systems, punishment and the walls of the classroom, and these formations are exploded and reversed by the educational life-forms. The coded language of teaching manuals and professional practice reproduces the body-without-organs because they may drain the sprightly sexual body of emergent life through internalisation and the potential subjectification of inflexible regulation (Cole, 2007b). Educational life-forms give us a way of talking about these connections, and applying affect to the transformations of the body that the education system enables and maintains; these changes in form may be explicitly sexual and power driven, or a subtle mixture of tacitlearning tendencies. Spinoza's influence on the philosophy of life enables this discussion, and points to a significant future pathway for research and analysis of affect and how it is played out in teaching and learning from a Deleuzian perspective (i.e. pre-personal

singularities). This research programme has been started by educationalists, who are currently using Spinoza's influence on affect to analyse pedagogy (e.g. Watkins, 2007). This discussion shall be extended in chapter (6), where I invent a 2-role model of affect to enable understanding of Deleuzian affect in education by building relationships.

Nietzsche

The final influence on Deleuze's philosophy of life that I shall trace here is that of Friedrich Nietzsche. Deleuze (1983) wrote a groundbreaking book on Nietzsche, and this engagement did not cease throughout his career. In a section called, *Thought and Life*, Deleuze quotes Nietzsche, and this quote is worth using here for the purposes of the philosophy of life, the educational life-forms and Deleuzian teaching and learning practice:

> There are lives with prodigious difficulties; these are the lives of the thinkers. And we must lend an ear to what we are told about them, for here we discover possibilities of life the mere story of which gives us joy and strength and sheds light on the lives of their successors. There is much invention, reflection, boldness, despair and hope here as in the voyages of great navigators; and to tell the truth, these are also voyages of exploration in the most distant and perilous domains of life. What is surprising in these lives is that 2 opposed instincts, which pull in opposite directions, seem to be forced to walk under the same yolk: the instinct that leads to knowledge is constantly constrained to abandon the ground where man habitually lives and to throw itself into the uncertain, and the instinct that wills life is forced to grope ceaselessly in the dark for a new place to establish itself (Deleuze, 1983, p. 94).

If we take this quote for the benefit of educational life-forms, it is clear that the force we are talking about lies at the intersection of these two opposing forces. Deleuzian teaching and learning is about constantly finding new ways to regenerate pedagogy from within and from without (see Cole & Throssell, 2008). The problem with this statement is that we don't know what these techniques will be until the particular teacher, subject area and their cohort find this 'new way'. This is not a facile or obviating proposition, but lies at the heart of the educational life-forms and Deleuzian teaching and learning practice. The contextual grounding for the educational life-forms denotes a type of constructivism (see Alliez, 2004) that circumvents subjectivity through experimentation and creative turbulence. This means that the grounding for the teaching and learning energy resources are contextual, yet also beyond any circumstantial or limited rendering of the situation. Deleuze (1983) explains these processes of emergence with reference to Nietzsche and in terms of the active and reactive types. Furthermore, figure (7) represents an important typology that we may directly relate to the Deleuzian philosophy of life. This typology (Figure 7) refigures and increases the impact of the vitalism that we may derive from Bergson, and extends and intensifies the affect from Spinoza. This typology also plays into the social consequences of understanding the philosophy of life from the work of Marx:

TYPE	VARIETY OF TYPE	MECHANISM	PRINCIPLE	PRODUCT	QUALITY OF THE WILL TO POWER
Active Type: the Master (active forces prevail over reactive forces; reactive forces are acted)	*Dream* and *intoxication*	The excitations of life, the stimulants of the will to power	Apollo and Dionysus	*The Artist*	AFFIRMATION
	Consciousness: system of the reactive apparatus where reactive forces react to excitations	Distinction between trace and excitation (repression of the memory of traces).	Faculty of Forgetting (as regulative principle)	*The Noble*	
	Culture: Generic activity by which reactive forces are trained and tamed	Mechanism of violence; *external meaning* of pain; establishment of the debtor-creditor relationship; responsibility-debt	Faculty of memory; memory of words (as teleological principle)	*The Sovereign Individual, the Legislator*	
Reactive Type: the Slave (reactive forces prevail over active forces; they triumph without forming a greater force)	*Ressentiment*	Topological Aspect: *Displacement* (displacement of reactive forces)	Memory of traces; ascent of traces; confusion of excitation and trace	The man who cannot 'have done' with anything	NEGATION
		Typological Aspect: *Reversal* (reversal of values or of the relation of forces)	First FICTION: Reactive projection of the reversed image	The perpetual accuser (who is not Noble)	
	Bad Consciousness (internalisation)	Topological Aspect: *Turning back* (internalisation of forces)	Active force separated from what it can do	The man who multiplies his pain	
		Typological Aspect: *changing of direction* (internalisation of pain by changing ressentiment)	Second FICTION: Reactive projection of debt; usurping of culture and formation of the herd	The *guilty man* internal meaning of pain. The *domesticated man* (who is not Legislator)	
	Ascetic ideal	Ways of making bad conscience and ressentiment bearable	Third FICTION: Setting up of a world-beyond	The ascetic man (who is not Artist)	
		Expression of the will to nothingness			

Figure 7. Typology of active and reactive types (Deleuze, 1983, p. 146).

Teachers and learners are caught in this typology. The problem that may beset the teaching and learning system is that teachers and students are often programmed to reside in the reactive sections of this table (Figure 7). This eventuality would mean that educational life-forms do not become activated through context, but are solely controlled from the outside by governmental bureaucracies and curriculum frameworks. It could be stated that active types of teaching and learning practice are able to affirm the will to power, and not be dragged into negative zones of resentment, accusation and pain. Reactive types of teaching and learning are paralysed in the headlights of outside interference and manipulation. This point is especially pertinent with respect to debt and the ways in which debt structures and restructures our lives. The reactive types may be overwhelmed by debt, creating excessive nervousness in the subject and potential physiological harm. This is not conducive to teaching and learning, and the ways in which university students are presently thrown into debt and teachers are poorly paid does not help the situation (see Horsley & Stokes, 2005). However, the educational life-forms include the situation of having to teach and learn in societies where debt has become an everyday yet complex reality. In Nietzsche's (and Marx's) world, the capitalist system was perhaps more straightforward in terms of how labour was exploited and debt was played out in forced analogues of poverty and servitude. Nowadays, the ways in which these societal control mechanisms work is often digital, hidden and convoluted, yet equally as pertinent. Educational life-forms recognises the effects of debt and reactivity in teaching and learning, and passionately advocates that a path is cleared for their removal in the lives of teachers and students.

Nietzsche's influence on the Deleuzian philosophy of life is often misunderstood. For example, the will to power is not merely the maniacal drive of the tyrant (even though this is not excluded). Rather, the will to power expresses a truth about life. This truth is that forces may be managed and harnessed to tend towards our goals. The example of the excessively nervous, reactive type, gives us an instance of the ways in which physiology will interfere with the demands of teaching and learning practice (see Howard & Johnson, 2002). The reality of stress in the lives of teachers and learners can make this control and purpose difficult to realise. The educational life-forms are therefore critically about the ability to use stress purposefully. This means being at the height of sensitivity and awareness in the classroom, yet able to use this energy to the benefit of teaching and learning aims. For example, if a teacher is overwhelmed in a particular instance by classroom management problems, they should not internalise this situation, and be able to share what is happening. According to the educational life-forms and Deleuzian teaching and learning practice, the teacher needs to be able to openly discuss the dynamics of the class with other teachers, parents and students, and come up with solutions as a result of and through this dialogue. This scheme also illustrates the difference in kind that the Deleuzian philosophy of life opens up, especially with respect to the influence of Nietzsche. This is that dialogue is not exclusively connected to the learning context (internal), but that it is a device that relates the classroom to other contexts (external). Educational life-forms take all

the energies that are present in any teaching and learning context, whether positive or negative, and ceaselessly look for ways in which they may work outwards to affirm life.

DELEUZE & GUATTARI'S SEMIOTICS OF LIFE

The four influences on Deleuze's philosophy of life come to a fever pitch of intensity in the first two combined books that Deleuze wrote with Félix Guattari (1984, 1988). As has been mentioned above, this increase in energy level is due in part to strong influence of Marx, but it is also as a result of the sustained engagement with the forces of the unconscious. This work extends the field of psychoanalysis that had been dominated by the investigations of Jung, Freud and Lacan and their followers (see Boothby, 2001). However, Deleuze and Guattari (1984) construct their thesis to work outside of the institutional and intellectual heritage of psychoanalysis. The unconscious functions through desire and interacts with the social field in terms of three synthesises in *Anti Oedipus*(connective/conjunctive/disjunctive) and through figures such as the rhizome and the machinic phylum in *1000 Plateaus. Anti Oedipus* deals with familial reproduction, that is a pertinent move in terms of the educational life-forms and the ways in which the teacher may take on the role of a policeman or a judge. This role-playing is due, in part, to the transference of energies happening through the unconscious, as the teacher imagines their role as different to purely teaching and learning because of social pressure and disjunctive desire (please see chapter 6 for my 2-role model of affect in education).

1000 Plateaus engages with education as a process of segmentation, where we are told "you are not at home anymore". At work we are told, "you are not at school anymore" (Deleuze & Guattari, 1988, p. 230), thus society sets up repetitive processes that displace one's sense of position, and diminishes the importance of the movement as contained. The unconscious is broken up through the ways in which time is manipulated and linear segments of action are artificially inserted into education that categorises and places us into herds. Schooling organizes us into cohorts and herds that signify a form of organization and control. This is not just an outward fact of living in a certain type of society, but goes into our internal desires and the unconscious. We may start to dream about the orchestrations of mass education as if we are personally responsible for the functions and forms that have segregated us, and our lives. George Orwell (1949) has demonstrated this in *1984*, where the state infiltrates every aspect of life, including the unconscious desires of Winston Smith. Kafka (2000) wrote about a type of broken consciousness, which implicates the agent in a *trope d'œil,* or self-deception about his outward workings in the world. K doesn't know if the justice that he is seeking is his own imaginative (re)creation, or a way of manipulating him into thinking otherwise by some unknown power. The semiotics of life includes a form of deliberate questioning of positions that should take us into the unconscious play of forces in the imagination.

The semiotics of life is therefore about identifying and doing something about the ways in which we are controlled and manipulated by the signs in everyday life. For example, advertising can present us with beautiful people living luxuriant lifestyles and using commercial products. These products have brand symbols that go into our unconscious with the aid of slogans, jingles and designed images. We henceforth desire these products and the consequent lifestyle however unrealistic or incongruent with our current situations they may be. The construction of the unconscious from Deleuze & Guattari (1988) is that it is full of life. This means that the signs form flows and territories in our minds and through our actions that are able to motivate and discourage us from behaving in certain ways. We cannot abstract ourselves from the plethora of signs that now assail us, but we are able to track and use the energy of the movement of signs in everyday life. In *Anti Oedipus* this process is described as 'schizo-analysis', whereby the semiotics of life enables a reading of psychosomatic energies and their dispersal into the social as affirmative. Deleuze & Guattari (1984) suggest that we are able to use the madness of capitalist signs to our advantage, to expand the unconscious and to accelerate the consequent imaginative powers. In *1000 Plateaus* the semiotics of life are gathered and harnessed through abstract machines that work on planes of immanence throughout non-linear history. Deleuze & Guattari (1988) point out that we may ride on these planes and use their forces to propel qualitative multiplicities through our minds to understand how moments in the history of thought have been formed and may play out through action. For example, the music of Beethoven is an abstract machine that also tells us about human relationships with nature, the Enlightenment, Romanticism and German social organization. These forces in the work of Beethoven form a plane that runs through his music, and shows how his (un)consciousness worked, synthesising influences and inventing new sonic variations. We can use the semiotics of life as educational life-forms in that schizo-analysis and abstract machines are methods for deploying the unconscious as a creative and regenerating force, and not as a lack (of reason). Deleuzian teaching and learning includes harnessing the play of forces in the creative unconscious, and using this force to make change happen in the world.

EDUCATIONAL LIFE-FORMS *PER SE*

Educational life-forms bubble and ferment in teaching and learning contexts like patterns of bacterial growth on a Petri dish or interference on the radio. Educational life-forms are at the same time very small and extremely expansive, in that they attend to non-representational elements in teaching and learning such as affects, and perspectival approaches to education such as those that question capitalist modes of becoming. The idea of educational life-forms are perhaps duplicitous if considered as biological fact, yet empowering as a mode of analysing educational practice. Educational life-forms give educators more options and allow them to focus on what makes life stronger and better through their teaching and learning. Evidence for these propositions may be found in recent brain research that has shown that learning is mostly a function of novelty, and the ways in which we

might stimulate consciousness through making connections between various fields of operation such as the visual, numerical, linguistic and the gestural (e.g. Caine & Caine, 1991). The reality of the educational life-forms hinges upon learning as a way of activating engagement in teaching and learning contexts and suggests that teaching and learning are intimately related. The Deleuzian philosophy of life and Deleuze and Guattari's semiotics of life add to this reality, in that these approaches provide frameworks that we may place as counter-weights to the sometimes difficult job of continual learning engagement. These frameworks could act as inspiration for educators, that takes them beyond the potential for everyday drudgery in schools, colleges and universities, and into a vitalist field where energies and drives in life are fully connected to the undulations of teaching practice (enhanced educative reality or (an)other space). Students can also use these frameworks for their studies as they provide overriding goals, whilst simultaneously attending to internal and personal motivations.

The educational life-forms are philosophically based, yet designed to work on a pragmatic and functional level. One doesn't have to be a professional philosopher to attend to the aspects of life that are highlighted by Deleuze in his writing. For example, as has been mentioned above, teaching can be an extremely stressful job, demanding large amounts of emotional and positive energy in order to create purposeful learning environments where everyone has the chance to succeed in their studies. Teachers may feel overwhelmed by these internal pressures that beset them on a daily bases, in addition to the ways in which their job is often manipulated from the outside by people and forces that often have little to do with the everyday actuality of teaching and learning practice. The Deleuzian philosophy of life works on this level as it attends to the unconscious as well as outward, direct signs of control such as those found in the media or through government. The teacher needs to find emotional drives and positive attitudes to make their learning environments work by going inside of themselves, and by remembering occasions when they learnt well and in a sustained manner. These occasions and active memory process is more than nostalgic reminiscence, it is also a virtual source of the educational life-forms (cf. Agamben, 1998). The educational life-forms should come through the teacher, the context and the students, and they shall be created in practice as simultaneous inward and outward movements. The outward side of the teaching and learning practice involves dealing with forces that wish to intercede in classrooms, often on behalf of social forces. For example, political and moral biases may be hidden in curricula documents or universal examinations that will not help to sustain the learning environment (see chapter 3). The educational life-forms are therefore also about ring-fencing teaching and learning as a practice, not with barbed wire and armed turrets, but through the constant (re)creation of education as other to the tendency to homogenise learning through power concerns.

CONCLUSION

This chapter has argued for a philosophy of life and its application in education. This philosophy of life has been taken from the work of Gilles Deleuze, whose

analysis engages with the problems of life through experimenting with the history of philosophy, literature and the social semiotics of his combined writing with Félix Guattari. In terms of the influences on the philosophy of life, the designation and naming of Bergson, Marx, Spinoza and Nietzsche, does not signify a Bergson-Marx-Spinoza-Nietzsche machine at the heart of the philosophy of life. Rather, these major influences should help us to understand how the notion of life works through Deleuze's philosophy. The introduction of Bergson infuses the idea of life with vitality, Marx lends the notion of life a social dynamic, Spinoza pinpoints affect at the centre and thresholds of life, and Nietzsche interprets life as the will to power. These influences therefore separate out and diffuse within any context, as one applies these perspectives to specific teaching and learning contexts with the intention of growing educational life-forms. Teachers and students should be able to take and use the philosophy of life in their own context to make education work. Life is part of the core business of education, and this chapter gives one a method for realising this statement in the everyday teaching and learning realities that currently exist. The next chapter takes this analysis a step further, and looks at certain aspects of contemporary education from the perspective of the educational life-forms and Deleuzian teaching and learning practice.

NOTES

[1] This excerpt from, *Immanence: A life*, has been much discussed in the Deleuze literature recently, e.g. (Colebrook, 2010; Buchanan, 2006; Lecercle, 2010). The authors use the excerpt to examine Deleuze's response to questions about life, immanence, and in the case of Lecercle (2010), how Deleuze reads literature. Lecercle (2010) comments on the focus that Deleuze lends reading *Our Mutual Friend* by highlighting the moment when Riderhood nearly drowns and becomes 'a life'. I have prioritised the parallel moment, later in the book, when Riderhood dies in the clutches of Headstone. This is when 'a life' becomes fused with 'life' due to the confusion of identity.