

Time and education in the philosophy of Gilles Deleuze [final draft]

The activity of the narrator no longer consists in explication, to deploy a content, but to select, to choose a non-communicating part, a non-communicating vessel, with the self enclosed in it. (Gilles Deleuze, Proust et les signes, p 154)

A gift in time

When he was a child in the 1920s my grandfather suffered from severe ear infections. These were treated by crude surgery on both his inner ears. He was left deaf. At the back of his school classes, he could not follow the lessons, yet could already read and write. One of his teachers, noticing a child eager to learn, gave him the works of Shakespeare to read and report on during lessons. Though he did not continue school beyond sixteen, this thoughtful act helped my grandfather, in one of many different jobs, to become a proof reader for the press. Much more than that, though, it gave him an inner record of language, wisdom and human experience adapted to almost any challenge life could conjure up. This benefitted me and everyone else who met this balanced and kind family man, since not only were our minor disasters and frustrations met with good humour and stoical yet streetwise advice, they were also accompanied by a more mysterious, sometimes apparently inapposite, yet invariably enticing and eventually enabling Shakespearean verb and lore.

What time-frame was that caring educator teaching for? Was it the time of a peaceful class-room? Or was it the later useful employment of a man? Perhaps it was for the fullness of a whole life, lived in tune with the best of humane art? Or was it to benefit a community, cohering through the harmony of its different members in the edifying effect of their common cultures? Perhaps, in continuing the deep influence of Shakespeare's works, it was a gesture towards the past, as much as to the present or future; a stewardship of the past.

Or maybe it went well beyond all these virtues by combining them, since in contributing to a good life, that teacher also contributed to all the lives it touched and will continue to enrich, including mine and now those of my children and their cousins in counties, countries and cultures far from the murky and treacherous waters of the Thames in London, where my grandfather swam and one of his brothers drowned as a child, a few wharfs from the site of Shakespeare's Globe theatre. In writing these lines, I also launch a small part of that example of good teaching a little further on in time through any reader, even one who might come to disagree with everything I will go on to claim.

Selection in a multiplicity of times

... it is because time, ultimate interpreter and ultimate to interpret, has the strange power to affirm simultaneously pieces that do not make a whole in space, no more than they form

one by succession in time. Time is exactly the transversal of all possible spaces, including spaces of time. (Deleuze, Proust et les signes, p 157)

One of my arguments, drawn from the philosophy of Gilles Deleuze, will be that there is more to reality than actual events gauged either according to individual lives and the linear clock time it takes them to fill, or according to some account of time and space taken from classical physics. The essence of good teaching according to this philosophy is to adapt to singular circumstances and individuals by drawing from an ideal virtual reserve, beyond actual occurrences and reference points. This reserve demands a different and complicated account of time, where time is viewed as a nexus of interacting dimensions of times. Much of Deleuze's philosophy is concerned with the implications of this multiplicity of active and passive syntheses of times and, therefore, of processes for teaching and apprenticeship to life, for instance in his readings of Plato, Bergson, Sacher-Masoch, Proust, Kant and Nietzsche.

Here is this nexus of times rendered as a grid:

	First synthesis of time (synthesis in the present)	Second synthesis of time (synthesis of the past)	Third synthesis of time (synthesis for the future)
Present	As prior selection	As made to pass as the most contracted state of the pure past	As incapable of returning and as caesura, assembly and seriation
Past	As dimension contracted into the present through a singular selection	As synthesis of the pure past	As selected to return as pure difference and as symbolic process
Future	As dimension contracted into the present as a range of possibilities assigned given probabilities	As freedom and destiny	As eternal return of difference

The processes described in each box are not independent of one another, but rather determine each other such that individual boxes are always incomplete. Any event is a conjunction of all nine processes and a 'transversal' product of their mutual determinations.¹ Time is a multiplicity of processes of reciprocal determination. These determinations are defined according to the concepts of dimension and priority. On the left to right diagonal each time is defined as a prior process, one that takes the others as dimensions by determining them but not by being determined by them in return. All processes not on that diagonal are dimensions of ones on it. This means that Deleuze's definition of multiple times is asymmetrical. Time flows for Deleuze and has an irreversible quality. Unlike traditional concepts of the irreversible flow of time from past to future, Deleuze's time has multiple dimensions that cannot be reversed, including from future to past, present to future and present to past.

For Deleuze, the present is defined as a prior selection. It is a determination of time by a selection in the present highlighting a path in the past, by increasing its significance, and altering possibilities in the future, by reassigning their probabilities. This explains the importance of selection in his account of the apprenticeship to signs in his work on Proust in the above quoted passages.² The apprentice to signs must learn to select and to select well, in relation to all of the past and all of the future, but where time is never a perfect whole but rather a series of parts or non-communicating vases.

The present is therefore a reassignment of the past in degrees of significance and a recombination of the future through a change in probabilities. Deleuze calls this a concentration of the past and of the future. When a teacher makes an example of a pupil, for instance in choosing one for a special role or favour, the past is selected in a particular way and the future is altered in its possibilities. *I always regret having been the one chosen for banishment.* This active selection is, however, passive when taken as a dimension of the past, that is, as it passes away into the past and changes in its significance. In addition to selection, every present is a passive fading away into the past. *Even as I resisted its mark, banishment was to be my destiny and stain.* The present is not only passive to a calling into the past. It is also passive in relation to the future. This is because new presents will replay the past present by transforming its original passing away and selections. *I did not know banishment would become such a mark of infamy.* It is also because the condition of an open future erases all marks of identity as either necessary or settled since all can be reassembled and set into new series. *I had nothing to resist the freedom and power of the future.*

Due to the role of selection in a complex and irreducible nexus of dimensions, against the ground of past, present and future passivity and action, Deleuze's philosophy is a practical philosophy. Practice is not about prescription, nor is it regulated by it. This is because the asymmetries and multiplicity of times mean that determination is not uniform and universal, as it would be in simple versions of causal determination according to a now out-dated account of natural laws, for instance. Neither is practice about ethical obligation, since the determination allows for no overarching transcendent moral laws. There is neither 'is' nor 'ought' in this philosophy of time, only a more speculative set of guidelines in relation to an essentially problematic and event-led frame.

Deleuze's philosophy of time, or at least my version of it, translates into practical guides. Here is the nexus of time translated into a set of paradoxical maxims, questions and challenges for apprenticeship. The guides are for apprentice teachers and apprentice learners, for no one is simply one or the other:

	First synthesis of time (synthesis in the present)	Second synthesis of time (synthesis of the past)	Third synthesis of time (synthesis for the future)
Present	Your selections in the present concentrate all of the past and all of the future. <i>How will you select past degrees and future probabilities</i>	Your present passes away not into an unchanging record but into a shifting set of values. <i>How will your selection be affirmative</i>	The present will never return. It is a cut that reassembles the whole of time and sets it into a new series. <i>All your actual existence will pass</i>

	<i>against the whole of time?</i>	<i>and resilient to its passing away into pure differences of value?</i>	<i>away, never to return. How will your selections reassemble time and determine new series?</i>
Past	The past is revised by your selections. <i>Seek to revise the past well and to avoid resenting it.</i>	All values of the past are at play in the passing of any present. There are no pure acts and no pure good or evil. <i>All acts are a matter of degree, but degrees always matter.</i>	The past only returns as pure difference in a symbolic replaying. <i>What symbols need to be reworked to express the pure difference you want to connect to?</i>
Future	The present alters probabilities for all future possibilities. <i>Which possible lines does your selection make more likely, which less so?</i>	The future is free from the past as actual contraction but determined by it as destiny to replay values. <i>How are you free? Try to divine your destiny.</i>	The future is the eternal return of difference. <i>How to live with the challenge that only difference returns and never the same?</i>

The teacher and the apprentice in time have therefore to select on the transversal line: selection in the present, with the transformation of degrees of pure values in the past and their return in the future, free of any former identities and representations. *Who? Where? How to select? Which values to intensify? Which to call to return?*

This transversal line is described in detail in Deleuze's work on Proust and apprenticeship. It can be read as leading into, then following Deleuze's work on time in Difference and Repetition. The book is bridged by the two editions of Deleuze's Proust work; they share and expand upon the crucial idea of dimensions of time. Given the different dimensions of time, actors and narrators, apprentice-teachers, must replay fragmented parts in time. They must seek to select well in each dimension as different and irreducible to all the others. Yet this act will still unify them, but only as dimensions of one another, rather than as a single total unity of time in which subjects and objects are well-placed in unique space-time:

Since, if a work of art communicates with a public or, better, calls forth a public, if the work communicates with others by the artist, and calls for new ones, it is always in this dimension of transversality, where unity and totality are established for themselves, without unifying or totalising objects or subjects. The work is the supplementary dimension added to those occupied by the characters, events and parts of *In Search of Lost Time* – that dimension in time with no common measure with the dimensions they occupy in space. (Deleuze, Proust et les signes, p 202-3)

Any selection is therefore a balancing act with different relations to time. Teachers and apprentices will never have a secure and certain solution to the problem of how to teach and learn in a given situation. Instead, each act is experimental and only open to guidelines. If we accept Deleuze

fragmentation of time into dimensions, then teaching will always remain an experimental and singular practice: a transversal practice.

This insistence on the individual and singular within a patchwork of connections and disconnections informs Deleuze's appreciation of teachers. When he turns to the difficult task of writing elegies for friends, Deleuze frequently isolates the feature making them a special teacher, unlike others yet in the service of an innovative connection to pupils and comrades. For François Châtelet, for instance, he draws attention to the capacity to create novel groups of their famously talented and quarrelsome set of friends, some of whom became their colleagues at Vincennes. Châtelet is a 'group star', an educator who makes collectives creative. This is his singularity:

But what is remarkable, is not simply [François'] pedagogical care and taste. It is certain that he was a great teacher, but what was important is that the direction of collective work allowed him to trace new paths. He was not doing history. It was really new tracks. (Deleuze, 'Il était une étoile de groupe', 249)

Deleuze values teachers. According to his philosophy, great teachers create by aligning their singular powers with those of others in order to usher in the new. Theirs is a collective apprenticeship to differences and to novelty in an act of creation. It can never simply be passing on of knowledge, or learning, or skills, but must constitute a novel event out of historical fragments: the lesson as event and encounter. This is why Deleuze's philosophy of time forms the context for his sketches of teaching and apprenticeship. It is also why the nurturing environment for his thinking about teaching and apprenticeship can be found not in pedagogical theory, but in the works and practice of artists and philosophers.

Practice under the demands of purity and abstraction

Similarly, in Masoch even order words and descriptions are surpassed towards a higher language. But this time, everything is persuasion, and education. (Gilles Deleuze, Présentation de Sacher-Masoch, p 20)

In the pedagogical undertaking of Masoch's heros, in the submission to the woman, in the torments they suffer, in the death they come to, there are as many moments of ascension to the Ideal. (Gilles Deleuze, Présentation de Sacher-Masoch, p 21)

In Deleuze's philosophy, the complex multiplicity of times and the roles of the pure past and of the future as eternal return of difference mean that any singular selection in the present is made against the background of a virtual reserve of the pure past, return of difference and passing of sameness and identity. According to this account of virtual reserve implied by each of these dimensions, because of their asymmetrical reciprocal determinations, teaching is a dedication to pass on pure and abstract values – the virtual reserve of difference - so lives have a greater potential to be lived well. Any act is a redistribution of degrees of intensity of pure values. Paradoxically, these values

have no meaning at all, if we understand meaning to be an association of a fixed signification with a given referent, act, or picture. They are instead transformations in the intensity of relations between abstract processes (to trust, to love, to bind, to free, to kill, to torture, to caress, to betray, to support, to mock, to nurture...)

These relations can be grouped under 'Ideas', which themselves must not be confused with meaning but rather with complex problems. For example, we might speak of the 'idea' of the internal combustion engine, but from Deleuze's philosophical structure this conceptual representation is but a fraction of the actual expression of, say, the Idea of the Age of Oil and its problematic legacy around the abstract processes of 'to hope', 'to destroy', 'to use', 'to build', 'to exhaust', 'to heat', 'to grow', 'to divide', 'to accelerate', 'to pollute', 'to make', 'to discover' and many more besides. Crucially, just like the mutual reciprocal determinations of the dimensions of times, an Idea is incomplete without its expression in actual things and meanings and these actualities require Ideas not only for their explanation but their genesis. Virtual and actual are in circles of mutual genesis, determination and expression.³

The association of the Idea with teaching and apprenticeship therefore takes a quasi-Platonic form, that is, a reversal of Platonism where Ideas become pure values in process, rather than eternal pure identities or oneness.⁴ That's why the future as eternal return of *difference* is so important to Deleuze's philosophy of time. The passages from Deleuze's book on Sacher-Masoch quoted above demonstrate the importance of this move to the Ideal in Deleuze's work. It would be a mistake, therefore, to connect Deleuze's account of apprenticeship strictly to the actual practices of masochism. Instead, it is the dialectical rise to an ideal that most concerns him:

From the body to the work of art, from the work of art to Ideas, there is all of an ascension that must be made through lashes of a whip. A dialectical spirit animates Masoch. Everything begins in *Venus in Furs* with a dream that occurs with an interrupted reading of Hegel. But it is mainly about Plato; if there is Spinozism in Sade, and a demonstrative reason, there is Platonism in Masoch, and a dialectical imagination. (Deleuze, Présentation de Sacher Masoch, p. 21)

The important lesson here is that any teaching and learning taken from within Deleuze's philosophy of time must be more than an aim towards actual aims and objectives, however worthy they might seem. The practice must have an ideal horizon in a change in the realm of values.

Abstract processes, such as 'to divide' or 'to love' and their intense relations are the highest values due to the demand, in any given situation, to seek to intensify their connections and to include as many of them as we can. *How can I reveal, transform and intensify the abstract processes sitting as a potential in this given situation?* A child cut off from the class through the ablation of one of his senses is reconnected to the abstract values in the most intense way through the loan of books. But is this gift not the most concrete of acts, rather than anything virtual, abstract and pure? The book, the loss of hearing and the class room are all concrete and actual. However, their potential to connect past and future events, against an unpromising situation, is not an actual entity, neither is their degree of significance, for instance as hurt or hope. This significance, this intensity of relations of values, relies on actualisation for determination, but far exceeds any given actualisation in range

of possibilities and potentialities to be revealed in others. Any act is in touch with *all* others through its struggle with value. *You have betrayed humanity.*

Might it have been better to do nothing, or do more, or offer a different gift? What would have happened then? What is the connection between different possible lines and different intense investments and experiences? Potential and possibility exceed concrete actualities in something intangible but very important. This is the condition for the explanation not only of the difference between alternate actual actions but also for the difference in value between them. The condition is a virtual differentiator of value and destiny. A teacher does not have to be conscious of this to depend upon it. In sensing that something must be done and in seeking the best thing to do, we divine into the future through our feel for the past and our attunement to signs of actual stress and opportunity. Perhaps this also explains the delayed gratitude for those teachers who sought to nurture our own singularity, and the loathing for those that failed it. *The change made, in that angry and long-smarting slap, to the intensities of 'to love' and 'to forgive' in their relations to 'to hate'.*

The pure values affirm the transformation of all meaning and set orders. To express their abstract quality, and the changing intensity of their connections, we must seek to go beyond and transform any given situation. The transformation of pure values requires actual becoming, rather than stasis. The situation treated as self-sufficient is incomplete and insufficient in relation to intensity, connection of relations and abstractness, understood as freedom from specific referents, acts and pictures. How could such transformation and therefore denial and destruction of what we hold dear to and live by at any given time be considered the highest and most pure values? They are pure exactly because they are free of specific meaning and identity, of all identifying marks limiting them and trapping them at a particular time and place. They are the highest of all values since they call into question all others and remind us of their exclusions, faults and redundancies. Most importantly they stress the failure of set values to be adequate to novelty and to difference. *How to escape entrenched yet worn rules without depending on others?*

So when an educator decides, against the grain, to divide or to assemble a class in order to release a different potential and respond to demands from the past, present and future, this act challenges and destroys a given order, but it also experiments with a different one. According to Deleuze's philosophy and its pure values, set concepts of division and assembly are not values in themselves. No set concept is a value in itself. Instead, different situations, events and individuals call for different responses seeking to release new potential. Value and intensity are explained through the potential. Sometimes connection and intensification could be by assembly; sometimes they could be by division. It is the effect in the virtual realm of pure values that counts in assessing and explaining the act. *Has there been an increase in the intensity of connections of pure values?*

In answering these questions there is no direct way into those effects and potentialities. They are not actualities we can touch or see. Instead, we must seek signs of the increase in intensity and connection in actual signs, such as a child developing because she has been set apart from others and been given special treatment, or such as children being given confidence and a sense of belonging when they are assembled with all others and not treated as different or inferior. We must also seek to express these novel connections of pure values and intensities through the creation of novel ideas.

These ideas cannot be mere slogans with their simple meaning and dependence on familiar value sets and preconceptions. They must instead be new concepts and acts that express a problematic coming together of different stresses and pulls within a field of possible answers. A new Idea, with its novel concepts, does not solve a problem. It expresses it as a challenge to find solutions, but also with the critical power to call any answer back into question. The problem and the Idea are therefore invitations to act but also to criticise any act and to put it into suspense. No answer is final. No answer is universally valid. It all depends on the relation between the situation, the events, the individuals and the effects. This is why Deleuze's philosophy of learning and teaching is one of singular events and local practice against a shifting cosmos (a chaosmos). This philosophy is never about universal concepts and laws. It is a speculative philosophy of experimentation and apprenticeship to changing practice, rather than a philosophy of knowledge and regular application.⁵

Against utopia

Classical humour and irony, as used by Plato, as they dominated thought of the laws, are found to be reversed. The double margin, represented by the foundation of the law on the Good and by the approval of the sage in function of the Better, is reduced to nothing. There is only the indetermination of the law on the one hand, and the precision of the punishment on the other. (Deleuze, Présentation de Sacher Masoch, p. 75)

Is it not absurd, to include 'to torture' or 'to kill' in a list of abstract processes to be connected to and to intensify as values? No. The task is to intensify their relation to other abstract values to connect them and thereby to deny their independence, not only as processes that can be enacted without connection to others, as if a killing could ever be free of a terrible connection to the murder of a loved one, but also as potential relations in other processes, as if love could ever be free of dark connections to pain and injury. There is a dark realism, a quality of chiaroscuro, to Deleuze's philosophy. It eschews the blithe utopianism of a world future-directed towards a pure identity in the Good or Absolute, but it also resists the deepest pessimism of a world vision drawn around brutal power and the struggle for survival as sole rule. So the highest value lies in revealing the connections of violence and apparently merely good processes. It also, though, lies in diffusing violence and cruelty through their connection to shared nurture, growth and dependence.

Paradoxically, the purity of values, the abstract nature of the Idea and the recurrence of the problem underwrite their potential to bend to novelty and singularity. Good teaching and apprenticeship are hence relentlessly critical of given values, including their own. They are also the creation of new Ideas, of new connections to and intense links between abstract processes, for novel situations and different individuals and groups. In Deleuze's philosophy every individual is a group and every such group is all worlds under a certain perspective or determination. In this education, actual lives are enriched, but the condition for this gift is the reserve of pure, virtual, yet real values. These are the values released with the critical and creative novelty of works of art, science and philosophy, such as

those expressed in the works of Shakespeare for my forefather, in the intensity, self-destructive fragility, and polyphonic tones of Shakespearean love in its embrace with violence and mistrust.

This is why Deleuze admires teachers and apprentices (Sade, Masoch and Kafka) whose acts show the emptiness of the law, its lack of determination. There is no eternal law - including our current law of naturalist subservience to scientific method and liberal economics. One of the roles of humour in teaching is to draw this out. Another role is to undermine the teacher or sage as guardian of what is better. Irony and humour are essential to teaching. They must be self-destructive as much as anything else. Without this self-undermining, a false law takes root with sages as its custodians: 'There has only ever been one way of thinking law, a comedy of thought, made of irony and humour... Sade and Masoch represent the two great efforts of contestation, of a radical reversal of the law.' (Deleuze, Présentation de Sacher Masoch, p. 75)

Values defined in opposition to laws are always repeated and expressed as new gifts, though to varying degrees, each time we recite lines or simply draw on cultural memory. In its actual acts and legacy, teaching revivifies this virtual reserve in its necessary exchange with actual lives and cultures. Together, actual lives - past, present and future – benefit from and contribute to those virtual values. When we say Shakespeare is eternal, maybe we have an intuition of this counterpoint of re-enactment and virtual reserve; embodied first in the work itself and then in the hinterland of ever-changing pure values it expresses. This counterpoint and Deleuze's insistence on the singularities of teachers and apprentices form a powerful opposition to the current obsession with centralised curricula and methodology. Together, these enforcements of uniformity seek to deny the dappled quality of a world evolving at different speeds in multiple times.

Good teaching is also therefore destructive and self-destructive.⁶ It has a duty to run counter to establishment and to smash icons. This is no license to annihilation, though. Destruction only has value where it serves the past, present and future of the individuals and events it depends on for its ongoing exercise and for its nurturing of new forms of value. There is no intensification of values where the individuals capable of carrying them are eliminated or hopelessly stunted. Deleuze's philosophy inherits the deep philosophical problem of dosage. This is the experimental practice of weighing out what an individual body can do and take as it evolves with novel events, in relation to all the other bodies its life connects it to under a certain perspective. Dosage balances between two disasters.

There is the disaster of conservatism, where order chokes on its own faded certainties. Then there is the disaster of the bloodthirsty rush to wipe out all of the past. The two are twins. Conservatism is nostalgia for earlier destructive ages, with their violence conveniently overlooked. The bloodthirsty rush carries remnants of earlier ages elevated to eternal truth. Dosage in relation to teaching is therefore a question of continuity and discontinuity. Which past lines must carry forward in order to allow the creative destruction of others? Which future lines must be sacrificed in this selection from the past in the present? A teacher is on the cusp of history and singular situation, having to divine what the future might hold while nurturing the present thanks to the past. This explains why all teaching is political. It is a struggle with different claims from the past and different calls from the future within a care for multiple demands in the present.

The time we teach for is then impossible to circumscribe in general plans and objectives, though many today wish to do just that by reducing teaching to training for specific time-limited tasks and abilities, or, in the realm of morals, to fixed forms of comportment or supposedly universal and timeless laws. The utilitarian outcomes will necessarily become redundant over periods defined by technical innovation, economic cycles, political fashions, social change, the sheer multiplicity of directions and comportments open to desires, and the ubiquity of wear and burgeoning among living beings. Imagined benefits will mostly fall stillborn, given the bureaucratic lag between the political and corporate specification of needs and their inscription into syllabus.

Populists and technocratic managers are rarely good at divination. They are even worse at eternal pure values, since they choose the false pretence of controlling the forces buffeting them and those they seek to dupe with aged and simplified solutions or one-dimensional techniques presented as economic necessities. Feeling the way into the future is a call better performed by philosophers, scientists and artists. Tentative experimentation by thinkers attempting to open up to the new will outlive the more confident yet also more fragile fixities of rulers and administrators, because time is not governed by eternal rules but rather by eternal change and becoming.

Signs and learning in the philosophy of time

Apprenticeship is not in the relation of representation to action (as reproduction of the Same), but in the relation of sign to response (as encounter with the Other). The sign involves heterogeneity in at least three ways: first, in the object carrying or emitting it, necessarily presenting two orders of size or two disparate realities between which the sign flashes; second, in itself, because the sign envelopes another “object” within the limits of the carrying object, incarnating a power of nature or spirit (Idea); finally, in the response it draws out, where the response movement does not “resemble” that of the sign. (Différence et répétition, 35)

Learning for Deleuze is apprenticeship, not a learning ‘that’ tending towards a ‘knowing that’, but an apprenticeship to ‘acting thus in response to this’. Unlike, the knowledge and behaviours following from learning ‘that’, which are settled and acquired once and for all, ‘thus’ is always in a process of evolution because it responds to a different ‘this’, to ever-changing material and situations, to ‘an encounter with the other’. This process is forward and backward facing, that is, past apprenticeship is reviewed in the present as an attitude towards the future, between the emission of a sign and ‘the response it draws out’.

Let’s be clear, none of this implies that education should not involve knowledge. It is rather that knowledge alone is insufficient. Knowledge also requires an apprenticeship to evolving practice. This practice is not a matter of knowledge. It is a matter of experimental doing and acting, when knowledge is not enough, when knowledge fails. *A gardener on new soil in a changing climate. A cyclist going beyond her limits on a hill taken too fast. A teacher in front of a class each new day. A musician with a new instrument or a new score. A writer essaying the next sentence. A child*

balancing without Mummy's hand. The first day without a loved one... and the hundredth. A scientist with new results. Parents skirmishing with an anguished teen.

There is a fundamental trap here around the concepts of the new and of the insufficiency of knowledge. It is not that apprenticeship has its proper place solely where there is novelty and where established knowledge reaches a limit. Learning always involves knowledge and apprenticeship, but to differing degrees. More importantly these degrees cannot be known at the time of learning, rather, they are discovered at a later time when the learning is put into practice again, tested anew, set in a different situation. This later time is itself under review by further apprenticeship such that instead of fixed aims or goals, or fixed review or judgement points, we instead have an infinite speculative cycle, where each new present is a speculative re-take on all of the past and all of the future. Selections must be made in this cycle and the infinity is not an excuse for inaction. Instead, the speculative nature of apprenticeship implies an awareness of necessary error, review and replay.

The lapse and mismatch between emission and response, both in relation to an encounter with something other and in relation to each other as 'other', as novel, leads Deleuze to redefine the sign. A sign is not a symbol, associating an image with a fixed meaning. It is not the arbitrary unity of a signifier and a signified. Nor is the sign a formal trigger or token. Nor is the sign a sense that can be put into circulation and reliably substituted and exchanged. Instead, the sign is a change of intensity registered sensually between two heterogeneous orders where both are forced to change but not according to a same logic or function: 'presenting two orders of size or two disparate realities between which the sign flashes'. An object carries the sign. It could be a stick, a word, a body-part, a movement. But the sign is a multiple effect of that object, not the object itself.

The book is given to the pupil, but the real sign is the flash between physical joy and intellectual growth, two orders altering in different ways through the work of the sign. The wider object is then the ideal horizon of these effects, the changing intensities in values embodied in the local gesture of the gift of the book and in the wider and wider effects on bodies and values: 'because the sign envelopes another "object" within the limits of the carrying object, incarnating a power of nature or spirit (Idea)'. In turn, the response to the sign, the way it is carried forward does not resemble the sign because it is responding to other encounters and forming its own signs. The gift of the book is not carried forth simply through a further gift of the same book (it is never the same gift). Instead, the flash between orders and the ideal and physical effects are echoed in a new sign which therefore responds to the earlier without resembling it, 'in the response it draws out, where the response movement does not "resemble" that of the sign'.

So knowledge is always misrepresented in relation to learning when it is given as self-sufficient, because all learning is also a matter of apprenticeship, whether we are aware of it or not. Again, all is degree and unconscious relations over time. An encounter with the new and the strange could well turn out to be at a low degree apprenticeship when viewed from a later experience or test. *You travelled the world but never learned how to dwell.* The acquisition of set knowledge with little apparent novelty and discovery can turn out to be the most intense period of apprenticeship, for instance where learning by rote or through repetitive knowledge turns into a deep preparation for later encounters. *Her deep knowledge of sail patterns revealed the battle to her long before it began.*

Apprenticeship is about time because it is only revealed over time and because it develops over stretches of time with no inherent boundaries. We must therefore understand apprenticeship within Deleuze's multiple nexus of dimensions of time. Apprenticeship is selection in the present, a passing away into the pure past, a divination of the future, an experimental and risky struggle with destiny, a necessary oblivion and a necessary return as pure difference through pure values. As soon as apprenticeship is understood as a time-bound task or as a way to fulfil a pre-known and fixed objective it is fundamentally misunderstood as active and passive comportment in times.

In Difference and Repetition, Deleuze is therefore critical of mistaken or backhanded gestures towards time in learning. 'To learn that' (*apprendre*) is never 'to be an apprentice to signs' (*l'apprenti*): 'And even if one insists on the specificity of learning, and on the *time* implied by apprenticeship, it is to appease the scruples of a psychological conscience that certainly does not allow itself to dispute the innate right of knowledge to represent all of the transcendental.' (Différence et répétition, p. 215) So long as learning is set within an account of knowledge whereby everything can be, by right, learned as knowledge, then learning is limited to an interval between two points in time: 'To learn is but the intermediary between not-knowing and knowing, the living passage from one to the other.' (215) To escape from these limits, Deleuze invokes the extreme case of learning as bounded by knowing: absolute knowledge in Hegel. Once again, Plato shows the way out of this trap: 'Because, with [Plato] to learn is really the transcendental movement of the soul, irreducible to knowledge as much as to lack of knowledge.' (215-6)

By transcendental movement in apprenticeship, Deleuze means a movement beyond known boundaries set by internal rights, recognition of limits and representation of internal spaces. A transcendental movement is a radical experimentation free of known goals and recognised limits and represented methods and actors. It is a leap into the unknown, but not one free of any determination, for it owes its structure to the structure of time: 'Thus a time is introduced into thought, not as the empirical time of the thinker submitted to factual conditions, for whom thinking takes time, but rather as a time of pure thought (time takes thought).' (Différence et répétition, p. 216)

¹ For my full interpretation of Deleuze's philosophy of time, see James Williams, Gilles Deleuze's Philosophy of Time: a Critical Introduction and Guide (Edinburgh University Press, 2011). I have used this interpretation and accompanying grid of time in other essays on time and objective-setting and on time and objects, 'Objects in manifold times: Deleuze and the speculative philosophy of objects as process' Cosmos and History, the Journal of Natural and Social Philosophy, Volume 7, Number 1, 2011, pp. 61-74 and 'Identity and time in Gilles Deleuze's Process Philosophy' in Constructing Identity in and around Organizations, Schultz, Maguire, Langley and Tsoukas (eds), Oxford University Press, 2011 pp. 180-200.

² For detailed analysis of Deleuze's apprenticeship to signs see Anne Sauvagnargues, Deleuze: l'empirisme transcendantal, Paris: Presses Universitaires de France, 2009, esp. pp. 123-148. Sauvagnargues insists on four facets to apprenticeship: the encounter with the sign, the art of apprenticeship, its local specificity and apprenticeship as practice: 'A sensibility to signs. Every apprentice is an Egyptologist ... it is the recourse art as artisanal making and regulated practice...' (145) Levi Bryant has a shorter set of references to apprenticeship 'in' signs in his Difference and Givenness, Chicago: Northwestern University Press, 2008. Partly this is because Bryant stresses the encounter aspect rather than the subsequent apprenticeship, as if the apprenticeship is in how to encounter rather than a broader learning as set out by Sauvagnargues and here: '... such thought requires an apprenticeship or training in signs to engender an openness to the encounter, prevent it from covering over the difference which manifests itself with the subjects and objects resulting from the syntheses of habitus.' (77)

³ There is a deep discussion, with rich examples and explanation, of this inter-dependence of virtual, the unconscious and the actual in Todd May and Inna Semetsky's 'Deleuze, ethical education, and the unconscious' in Semetsky (ed.) Nomadic Education: Variations on a Theme by Deleuze and Guattari pp. 143-58. Their insistence on the importance of freedom in education follows from the roles of the virtual and the unconscious: 'A free thought is capable of realizing its creative potential, of actualizing the virtual.' (p. 154) David Cole forthcoming book on Deleuze and education, Educational Life-forms: Deleuzian teaching and learning practice Rotterdam: Sense, forthcoming 2012, also has as a detailed and subtle analysis of the role of the virtual in education in relation to practice. Similar to the argument set out here, the importance of multiplicity and singularity is emphasised: 'The primary and yet malleable connection between the construction of the virtual and learning that we may derive from the philosophy of Deleuze, lies in the conception and deployment of multiplicities.' (Chapter 5)

⁴ Claire Colebrook shows this reversal within Platonism through the anti-Platonic side of Socratic Elenchus: '... Deleuze's overturning of Platonism deconstructs the opposition between truth and sophistry: there is a truth of appearances, an ability to think the truth of what appears, not as some hidden content, but as the life or difference of appearances. In Socratic pedagogy, for example, Socrates's interlocutor is often not led towards some content, but is exposed to the movement of dialogue and to a sense of the limited nature of already constituted terms.' Claire Colebrook 'Leading out, leading on: the Soul of Education' in Semetsky (ed.) Nomadic Education: Variations on a Theme by Deleuze and Guattari pp 35-42, esp. p. 40

⁵ That this account of practice in relation to signs offers many fruitful connections to the pragmatism of Dewey and Peirce is explained in detail in Inna Semetsky's Deleuze, Education and Becoming, Rotterdam: Sense, 2006, esp. chapter 2 'Becoming-sign'.

⁶ Ronald Bogue shows this critical dimension to teaching and to apprenticeship in his very beautiful essay 'Search, swim and see: Deleuze's apprenticeship to signs and pedagogy of images' in Semetsky (ed.) Nomadic Education: Variations on a Theme by Deleuze and Guattari, Rotterdam: Sense (2008), pp 1-16: 'Hence, the pedagogy of signs entails first a critique of codes and conventions, an undoing of orthodox connections, and then a reconnection of elements such that the gaps between them generate problems, fields of differential relations and singular points.' (p. 15)