

Education and the Time of our Lives...

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Abstract *Education has long presented itself as a meaningful advancement. This is a proposition which depends on, amongst other things, a particular projection of the temporal dimension. Time proposed as a forward flowing consistent and constant element allows for education as a progression through which its subjects will be improved upon by the addition of more knowledge and greater skills. This paper explores the notion of this progression through a deconstruction of the linear topology of time with reference to Nietzsche's eternal recurrence. In doing so the description of ourselves created by the idea of education as a progress is questioned. New mathematical ideas are presenting the possibility of topologies of time which are able to reflect and relate differently to human experience. Here I suggest that altering the topology of time used by education would also allow us to alter our understanding of human change and would therefore simultaneously allow us to think anew about what we mean by education.*

Keywords time, nihilism, memory, progress, change

Ourselves and Meaning

Disenchantment is part of education's territory. Even as we extoll its virtues and hold it up as the omnipotent means to a better life, we struggle against its failures and live with its disappointments. Education has long refused to yield its promised dreams to increased effort, increased resources, increased concerns, the increased doctrine of more, better, harder and for longer. The regretful loss of belief is held at bay by the parade of wonder cures that make their ceaseless way across the professional and political stage; the eternal promise of the next remedy, the latest intervention. But in any case there is little to hand with which we can really question education. It sets the terms of its own discussion, it names the permissible evidence, it acts as its own judge and jury. As the scientific model enveloped the Enlightenment, so education is for us no perspective; rather it is what is. Education is a righteous cause, an academic discipline, a government department, an industry, an entitlement, a personal possession, an object, a fact to be pored over, investigated, modelled, theorised, measured, mastered, given and received. There is

little space left for the thought that it may not be desirable to prop it up as a form of belief any longer. As nihilistic thought offered Nietzsche the means to question the all-pervasive doctrine of universal reason (Call, 1995) so it may now offer us a path to think our way out of the “fact” of education. As Brassier (2007) puts it a dose of nihilism here might be something to be celebrated rather than feared, an indication of intellectual maturity, the heralding of a hope rather than a loss.

In the dualistic world which nihilism seeks to deconstruct, a potential candidate for its own opposition must be the refined and purposeful intervention into the lives of the rising generation. If nihilism is a line of thought which leeches the purpose from all existence, then education is the conviction that puts itself forward as the endless recreation of that purpose. Education as the refutation of nihilism declares itself as a meaningful advancement which begins in “our” present to be extended across the generations into “their” futures. Education presents itself as a progress and just as Nietzsche used nihilism to argue against the ideas of science as progress, so it now offers us a similar opportunity to deconstruct the notion of education. Nihilism extends to us instead, as Schotte argues, an invitation to search for the thought behind thoughts (Schotte, 1984). Education is possible only within the metaphysical context that allows its fantasies an honest shape. This means, among other things, that education survives within a certain temporal construction which allows for a particular creation of the subject as an historical being whose existence is to be understood with reference to that construction of time.

Meaning and History

Time has not always been what it is now.

Donald Brown (1991) notes the concept and measurement of time as a cultural universal to which no known society acts or has acted as an exception. Taken at face value this statement glosses over the many different understandings of time that human societies have postulated across culture and history. Meek Lange (2011) begins her exploration of the western history of time with Plato and Aristotle who, in the company of others both ancient and modern (i.e., the Incas, Hopi, Hindus, Buddhists and Nietzsche himself in the form of the eternal recurrence), adhered to a cyclical view of time, in which the temporal movement of the earth affected both human society and the influence of the gods. The forward flowing line of time, she argues, began with St Augustine of Hippo who straightened out time as part of his understanding of man’s relationship to God. God’s design for the future of humanity had an end goal that required time to run forward in order to meet the promise of salvation (Meek Lange, 2011). The uncurling of time into an onward surging stream began in theological thought but had far reaching metaphysical

and would finish with the coming of the Apocalypse. In those days, time was enclosed between a past and a future both transparently accessible; the one foreshadowing the certain doom of the other. In history, as in the natural sciences, the temporal framework for understanding humanity already existed, pre-given in unalterable form and heavily influencing the turn of thought fashioned within it. The seeds of a “doctrine of progress” might have lain already in St Augustine of Hippo’s journey towards salvation (Meek Lange, 2011) but the release of their potential still had centuries in which to germinate. With Francis Bacon and his contemporaries Toumlin and Goodfield note a turning point in historical thought; “Bacon’s intellectual optimism broke completely with the medieval traditions” (Toumlin & Goodfield, 1965, p. 132). An assurance capable of burning through the long shadow of impending extinction began to be raised; an optimism predicated on the idea that humanity could at least contribute to the shaping of its own future, could acquire the means to hope for more than mercy. The mood swing opened up the potential for the idea of progress, along with a more secular understanding of cause and effect; ideas that became the guiding beacon of the future.

History and Progress

During the 16th, 17th and 18th centuries rapid scientific, mathematical and technological innovations gave credence to the new idea that underlying paradigms existed and that humans were capable of uncovering these through co-ordinated activity in which intellectual endeavour could be built on by successive generations (Meek Lange, 2011). Progress became the mantra of the Enlightenment. The further influence of the theory of evolution caught on in the idea that all history could be viewed as a type of progression (Toumlin & Goodfield, 1965). The arrow pointing into the future does not just indicate the direction of the flow of time but now also the movement of something else, a movement towards an ideal indicated not by spiritual salvation but by utopia; the worldly perfection of society, of knowledge and of humanity. Progress implies movement towards a goal, a positive direction of change and ultimately the utopian vision signals that there will be an end point, however far away it is. Visions of utopia, as Booth argues “point to distant horizons, and contain within them a sense that the particular journey will one day be completed” (Booth, 2007, p. 252).

Indeed utopia defined by Foucault is exactly “society itself brought to perfection” (Foucault, 1967, no page numbers,). It is a moot point to wonder what will happen when this state is reached. Without the mystery of spiritual salvation will it be that human struggle ceases and the world will simply be? Such a state could signify argues Brassier the “ultimate nihilistic conjecture” (Brassier, 2007, p. 206); the eternal recurrence. At the end of progress will the human population have finally reached the condition of a shoal of fish or a herd of wild horses where existence is what it is “without meaning or aim yet recurring inevitably without any

finale of nothingness” (Brassier, 2007, p. 207)? And if this state of ultimate and unconditional worth is to be found then what will have happened to the significance of time?

But whilst utopia remains so assuredly remote, time can continue in its constant forward flow towards this ultimate goal and whilst it does so human endeavour can join the stream in the continued faith of development and progress. What we have can always be improved on so that our movement into the future is a purposeful direction towards the more that is our incentive. Even the uncomfortable post-modern realisation that “scientific advance, technological development and knowledge accumulation did not guarantee happiness, perfectibility, and control over nature” (Booth, 2007, p. 126) need not force a change of direction but can be incorporated into the vision with just the adjustment that it will all take longer than we might have initially imagined.

Booth argues that the idea of human betterment is a consistent theme across time and culture to the extent that “progress is now a hard-wired political concept” (Booth, 2007, p. 132). The juxtaposition of “now” and “hard-wired” beg perhaps Booth’s own ideas of an (evolutionary) progress. This claim could hardly have been made by Augustine who understood destiny to be precisely that; the selection of the saved and the damned being God’s work not man’s (Meek Lange, 2011). Nor could progress be used as a concept by those who have not shared the modern conviction of the conscious mind which came so fully into force with the rise of monotheism (Norretranders, 1991). The distance between “other” temporal ideas and our own makes their swift organisation onto the left hand side of the timeline appear a rational reaction (we have surely progressed since the ideas of destiny and the bicameral mind) but given our subject matter such a move should here be recognised as a consequence of our own temporal alignment at least as much as it is a thoughtful (let alone objective) consideration of the alternatives such ideas offer.

Progress and the Subject

As Welch (2010) argues “the fact that time is simultaneously a phenomenon of, and fundamental to, our consciousness and cosmos requires that we recognise that any description of time must include a description of ourselves” (Welch, 2010, pp. 2-3). The linear topology of time postulates the individual subject as an historical being whose life is ruled by this particular metaphor of time. As an historical subject a continuous thread runs throughout the life span of every individual joining their past to their present and stretching meaningfully into their future. A life can be understood as a connected whole of past, present and future as a result of an historical existence that can unite the new-born baby with the dying aged. To this historical view of a single life can be added the concomitant vision of progress; “the mind maturing through experience from ignorance to knowledge” (Porter quoted by Booth, 2007, p. 124). Children enter the world in innocence and ignorance (or

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maybe in the mode of “little savages” (Aries, 1960) and their life will be understood in terms of a forward movement from that moment on in which the acquisition of knowledge, skills and experiences will be seen as their progression into mature adults and beyond into worthy citizens.

Far from being separate or only occurring in tandem with the progression of society as a whole such personal progress can be seen as necessarily interlinked, as both cause and effect, with the progression of all humanity. Auguste Comte claimed that “intellectual improvement drives progress” (Meek Lange, 2011); a claim which opens up a theoretical space for education as the deliberate cultivation of the intellect justified by its contribution to progress. Furthermore education can be seen as the way in which the development of the individual intellect is connected to the advancement of society in keeping with the onward, upward momentum of progress.

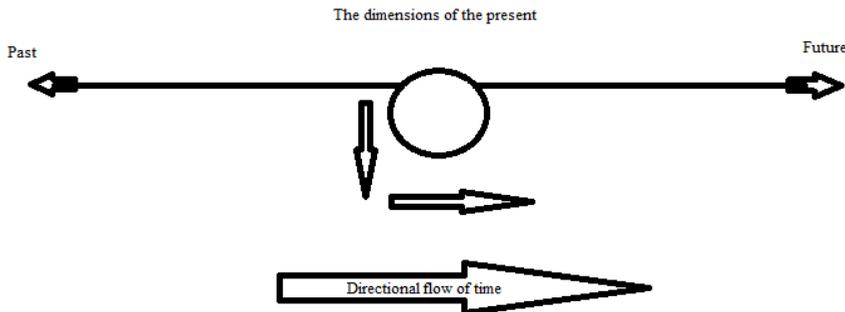
Education, the idea and the practice, illustrates that “the very way reality shows up for us is filtered through and circumscribed by the stands we take on ourselves; the embodied life-projects which organise our practical activities and so shape the intelligibility of our worlds” (Thomson, 2004, p. 444). Education, as a reified stance on time and existence, offers a double example of the idea of progress in action—human betterment is both the concern of society and the concern of the individual. On the level of society on-going school improvement agendas express the idea that we can become better at making people better; our education system can be continuously improved as we go forward in time. For the individual, the time spent in education is a personal progression in which the forward flow of time indicates the journey from ignorance to knowledge, from ineptitude to skill, from less to more.

The topology of time employed in education is a modern day classic based on the Newtonian ontological argument which “claims that time is an objective and absolute system, a fixed background against which all events in the universe are spatiotemporally localised” (Brockmeier, 2009, p. 117). The narrative of education presents a progression from a starting point towards an end with any number of interim goals spaced out along a time line from the duration of compulsory education through to “lifelong learning”; a progression expressed in myriad metaphors of journeys, hierarchies, technological achievements, accumulations and acquisitions. In practice such metaphors have been reified into age related norms, judgements of value added, exam passes, a concentration on outcomes and even the philosophical debate on the “purpose” of education. Education is a chain of events occurring over the life span of the subject, goal directed through a temporal dimension; a progress.

The Subject and Time

If education is a progress then time is integral to that progress, but education's use of the concept of time does not offer a timeless reading of time instead it illustrates the political use of a cultural tool as if such a thing had an existence in a given reality. Our understanding of time is cultural (including time as an object of scientific investigation) and the use of this understanding is one which has come to wield significant power, as is the case with the notion of progress in education. The subject who takes up the progression of education is equally a construct designed to fit a theory; one whose life can be mapped onto a linear and forward moving topology of time. In this theory the present of the subject can be understood in terms of her or his past and future; an interpretation of time that separates being and becoming and which allows education to be justified in its ongoing contribution to the act of becoming.

Nihilistic thought seeks to eradicate this difference "becoming must appear justified at every moment...the present must not be justified by reference to the future. Nor the past by reference to the present....Becoming is of equivalent value at every moment" (Brassier, 2007, p. 207). This problem of being and becoming is not just one of value and worth but also hangs critically in our conception of time. As Henri Bergson pointed out at the beginning of the last century (Phipps, 2004) philosophy holds an ongoing confusion which muddles time with its spatial representation. The result is a quasi-concept which, although in widespread use, is neither theoretically robust, nor able to act well as a reflection of lived experience.



Education as progress is, at any given moment (i.e., the present), the act of adding to the past in order to gain for the future. It would seem a fundamental requisite here that we are able to recognise the past, present and future and distinguish them from one another both for those who are the subjects of education and for the enterprise of education itself. Doing so is not as straight forward as it might at first appear and

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indeed the present itself has a history of being treated as a philosophically problematic notion. Although we appear to live continually in the present it does not contain us instead we seem to be in an on-going state of coming into and passing out from the present moment; “to be in time and to exist as a temporal being is to be always in a process of coming into and passing out of being and therefore to be a relative and transient being” (Pattison, 2011, p. 104). As we try to pin the present down it continually evades us; it is an idea to be grasped after but never seized as it slips away in either direction to what has just been or what is just about to be. “Now” is an ungraspable entity which destabilises the whole understanding of ourselves.

The difficulty is less to do with the concept of time itself and more to do with representation and with the reification of an abstract geometry into a measuring stick for life. This abstract geometry is the work of Euclid who used the concept of the point as one of the definitions on which the four postulates of the grand empire of his mathematical genius is built—“a point is that which hath no part” (Gaede, 2009, no page numbers). Euclidean geometry is drawn from locations of entire abstraction; they cannot be accurately represented, although they have been and continue to be inaccurately represented by Euclid himself and all of us as his followers. The difference between the abstract and its representation makes a literal non-sense of the linear topology of time.

A dot on a line, like the circle that represents the present, has “part”; it has dimensions and this is the case no matter how small we choose to draw it. If this geometrical idea is used to understand time then the present too must have dimensions. But if we give the present dimensions, like a dot on a line, a day, an hour, a nano-second, then we are simultaneously forced to accept that part of the present lies in the past and part in the future. We cannot reach the present by simply narrowing the gap between past and future. It may be approachable by cutting finer and finer slices of time but this method will not make it attainable. In the linear topology of time the present is an unachievable, endlessly nearing location which can never be attained, just as the addition of ever decreasing fractions brings us closer and closer to the number one without ever reaching it. By attempting to capture this insecurable entity we find that the present is not at all what we imagined, some precious, atom sized morsel of time, but is actually an infinity able to endlessly push back the means by which we aim to contain it and fitting Guedj’s description that it is “possible to approach the infinite but impossible to attain it” (Guedj, 1996, p. 114).

If we return to the linear topology of time with the idea that the present cannot be graphically understood but must be seen as an abstract, a location rather than a mark like a dot, then we find that this zero dimensional entity has become not just unrepresentable but also unimaginable in the metaphor in which we have placed it. For Gaede questioning the literal limits of Euclidean geometry “the problem is that

we cannot construct a physical line with locations” (Gaede, 2009, no page numbers). We cannot transfer the present as a location and not a point to a real or imaginary line of time (at least I can’t). Gaede argues that “for the purposes of physics ‘that which has ‘no part’ or ‘no extension’ is known as nothing” (Gaede, 2009, no page numbers) and it seems that this also is what the present has been reduced to. A place in time that occupies no time cannot take up a location on a line designed to measure time. A failure to find the present is a serious deficiency in this understanding of time. Without a present we have no means of keeping the distance between past and future. And with nothing to preserve the distinction, the line of time must simply collapse.

Such paradoxes riddle the linear topology of time. They may be approached as McTaggart (discussed by Markosian, 2014) has suggested by a shift in orientation in which the observer of time (and therefore the keeper of the present) becomes dispensable. McTaggart calls the approach to time in which events are measured away from a moving present, the A series and goes on to suggest a B series in which events are related only to each other and not a continually sliding present. This suggestion may hold at bay some of the difficulties of the linear topology of time but it will not eradicate them. As soon as we wish to locate an individual on the line of time (as education dealing with individuals must) the problem of the present will re-emerge.

Mathematically the difficulties encountered by the Euclidean based spatial representation of time can be addressed through calculus which deals with very small changes that can be seen as rates rather than states (Acheson, 2002). Thus the present is not a point or a location but a motion describable through differential equations that address continuous change.

To encompass this change it is necessary to dispense with the metaphorical image of the present as a definable point moving along the line of time and to consider uninterrupted movement without a focus. This is a difficult concept when we are used to change occurring to things rather than change being the state of things. One possible way of addressing this difference might be through a metaphorical use of fractals as I shall address below. Philosophically however this seems to be an apt opportunity to step away from the linear topology of time by reminding ourselves of the faulty thinking which can arise from the literal application of metaphor. Such application reifies conceptual ideas, so that they appear to reveal objective truths about the natural state of the world. The thought returns us to Markosian, for whom it is “natural to think that time can be represented by a line” (Markosian, 2014, no page numbers). However, now with the recognition that the naturalness is not to do with time but rather to do with our own “unconscious metaphorical conceptualization of instants of time as locations in space” (Lakoff & Johnson, 1999, p. 158).

Time and Change

Our identity as historical beings is held in place by a linear theory of time; a theory in which education actively engages through practices of “narrative identity construction” (Brockmeier, 2009, p. 120). We progress, advance, develop over time moving from a state of less to a state of more; a progression which is managed by the processes of education. This progress is characterised in the terms of an addition or an accumulation over a period of time; for example, in Biesta’s description, education “will make this life somehow better; more complete, more rounded, more perfect—and maybe even more human” (Biesta, 2006, p. 2). The linear topology of time sweeps up this idea of continuous advancement; more education will make us better and we will emerge, as Biesta puts it, a step closer to perfection. Yet this account begins to obscure the fundamental question of how do we recognise progress? It is easy to measure time passing, much less easy to recognise progress where “it is sometimes difficult even in the case of individuals to say whether changes have been improvements, or not” (Meek Lange, 2011, no page numbers).

There is a widespread assumption in educational thought that we are always better off knowing more or having enhanced skill and the “more” that is education is generally seen as impacting on a person without cost. This not only assumes that the ends will always justify the means but also assumes that educational accrual is a straightforward stock piling. Education has taken up a value laden stance; learning is, as Norretranders describes information “a ‘plus’ word, an expression we spontaneously associate with something ‘good’” (Norretranders, 1991, p. 41).

Thus the subject is presented in linear terms as one who undergoes a progression from less to more, empowered and liberated through learning. Examples of the force of this idea, indeed its self-evidence, can be drawn from a number of educational debates in which the notion and direction of progress is rarely considered to be anything other than transparently obvious. A ready illustration is the on-going and vast educational, social and political movement to “get children reading”; a thrust which concentrates on the most effective methods of promoting reading prowess at as young an age as possible with rarely any wider context about why this is considered so desirable or as to why a child who reads is educationally more “advanced” than a child who does not.

The analysis of educational progress is routine in formal education where standardised tests are globally widespread, although the extent to which “progress” can be measured by such means is the subject of deep and perhaps growing criticism (White, 2014). The analysis of progress must consist of the comparison of two states and therefore requires quantifiable, comparable elements; “to evaluate the change in a person’s state, we must treat the values [in question]...as commensurable” argues Meek Lange (2011, no page numbers). This means that if we want to compare two conditions, for instance a child who does not read with a child who does, we must consider that the differences between the two children can

be measured against each other. The notion of measurement itself precludes the idea that we might consider the states of the two children to be merely different, not that the accomplishment of reading could perhaps signal a change in a person rather than a progression. But away from the standard “progressive” measurements of schooling it seems highly doubtful that we could seriously compare the different imaginative and substantive worlds that two such children might inhabit on their own subjective terms. And if we were to reduce these things to measurement would we not have missed the infinity of possibilities that lie within both these states? The nuances of life present untold difficulties and contradictions in the straightforward notion of progress when used to compare either different people or the same person at different points of their life (White, 2014).

Part of the problem is that educational progress conceived in terms of the addition of more denies that sometimes, at least, losses may also be involved. For example this home educating parent describes the costs rather than gains that occurred when her son started to read:

My second son is very eloquent on the difference learning to read made to him. He felt that reading somehow “closed down” a part of his brain associated with imaginative play. He tried to retain his imaginative world for as long as possible and so finally read approaching adolescence—12/13. (home educating parent in Pattison, 2013, p. 222)

The notion of progress has little scope for examining such scenarios. In fact this example illustrates a factor of education which is commonly glossed over, what we might call the entropy of learning—the cost of knowing more, the price of the enhanced skill, the seeming paradox that in order to “learn” we must be prepared to lose. Entropy, argues Norrentranders, is the measure of an amount of information we have no interest in knowing (Norrentranders, 1991). Education is the encouragement of its subjects to lose what is not relevant to educational purpose; it is the creation of entropy. To learn to order the world in particular ways we must discard all the other possibilities and once they are gone they are over; we cannot return to the open space (something we might ponder on as the irreversibility of time). In education, even of the most benign imposition, the inevitable is the loss of innumerable possibilities, the closing of innumerable doors, the throwing away of endless promises of meaning, opportunity and chance. We are left, instead of progress, with the creation of entropy, the movement from more to less, the opposite of the supposed direction of education.

Change and Understanding

Our understanding of ourselves as historical subjects, with or without reference to education, is the ongoing attempt to map our own lives onto the linear topology of time. So embedded is the idea that time is a linear sequence that it is, at first at least, hard to conceptualise life differently. Lakoff and Johnson suggest that “our direct nonmetaphorically structured experience” (Lakoff & Johnson, 1999, p. 157) provides us with a means to do this and for such an experience of time we might turn to memory.

It amazes her that Toshi has no memory of the routine he once performed with his father. “What do you remember of him?” she prods every so often, hoping to dislodge some new memory. But all that Toshi remembers of his father is being carried on one arm before a sunny window. “Maaa, what a wonderful memory!” Makiko encourages him each time. “It must have been a very happy moment!”

When would this have taken place: which year, which month? Would even Yoshisune have remembered it, this throwaway moment that, inexplicably, has outlasted all the others in their son’s mind? (Waters, 2002, p. 336)

Related to the linear topology of time, memory should provide us with our own personal handle on ourselves as historical figures; through memory we link the present to the past and create the historical figure who will journey into the future. This idea would seem particularly relevant to the educational idea of progress; our educational persona has an organised, formal audit trail but is also reliant on memory as the means of access to the accumulation process of progress. In formal schooling there is a pre-occupation with memory and the

cultivation of effective memory as a necessary faculty for successful learning (e.g., Wood, 1998). As Wood points out, this is a particular cultural requirement and children in other societies are not required to develop the type of memory “skills” demanded of Western schooled children. Strategies such as rehearsal and organisation are actively encouraged by formal schooling and are key (if not the key) to success throughout the education system. The degree to which the successful manipulation of memory is achievable however is also a matter of concern. There is a good deal of educational anxiety surrounding the inability of memory to play its requisite role in the progress theory of education:

We found that students had forgotten around 60% of everything they learned for their A-levels. Universities expect their students to arrive with a high level of knowledge. What our research shows is that students are arriving at university with fantastic A-level grades, but having forgotten much of what they actually learned for their exams. (Sellgren, 2014)

Such examples illustrate Nietzsche's criticism about the supposed stability of concepts which language seems to imply; where the concept tends "to make existence appear as a flaw for not living up to what the concept claims it to be" (Schotte, 1984, P. 41).

I said to Rachel, "This is where we used to come."

Everything in the playground looked tiny beside the big new wooden climbing frame; the elephant slide, the baby swings, the sand pit. We stood by the fence and watched the mums and the babies playing and I thought about how I had pushed Rachel in the little swings and helped her up the slide steps and then run round to catch her as she came down the other side. "I don't remember" said Rachel. "It does not matter" I said, "I'll remember for both of us." But really I don't remember either. All those afternoons that we came here and played and went to feed the ducks and Rachel fell asleep in her pushchair with her head all lolled to one side and her little dress pushed up round her nappy. I could not remember those days as single events, I remembered them as a big blur of the same day, over and over again. There were no separate memories, no way of knowing which came first and which last.

Thus it seems that it is memory itself which is at fault rather than our idea of what memory is. The on-going self-imposed task of education to cultivate the faculty of memory and its reliance on this faculty (Wood, 1998), largely ignores that behind our formal understandings of history and autobiography lies a very different experience of time. The question of the relationship between the "real, actual thinking human being" (Pattison, 2011, p. 192) and the abstract historical figure proposed by the narrative of education is particularly pertinent given the span of compulsory education; 5–16 years of age. A five year old child's connection to his or her own past is a short lived and tenuous one. The past of young children is not accessible to them

through memory so memory cannot form for them a major source of understanding; yet under the influence of formal schooling it rapidly becomes the primary source of expected perception and the chief measurement of intelligence (Wood, 1998).

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On a personal level however, the relationship between past, present and future as suggested by the linear topology of time is a poor reflection of experience. Le Poidevin points to a wide variation in temporal experience including ideas of duration, order, past and present and change (Le Poidevin, 2009), to which we might also add progress, none of which map well onto the linear topology of time. We are able to hold events and feelings that happened long ago close in our minds

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whilst forgetting or having only vague memories of events much closer on the time line. We may not remember events in their timely order indeed we may never have experienced them in this way; Le Poidevin uses the example of witnesses to accidents who are frequently unable to order events. We experience time passing at different rates. We retain some memories and not others and not always with any explanation.

Our memories change over time and are sometimes of things that never actually happened.

Our remembering and forgetting is not to

our own bidding (Brockmeier, 2009). Our persona as the repository of our own memories is a changing one so that the person who looks back is not the "same" as the person who lived the initial experience. As Brockmeier has it "the concept of a natural flow of time reveals little about the shifting simultaneity of different experiences, temporal states, and, in fact, different "selves" of the experiencing or reminiscing narrator" (Brockmeier, 2009, p. 121). Memory does not adhere to a pre-given structure, rather "multiple temporalities of memory, in all their nonlinear and achronological randomness, represents most authentically the time of human

memory, in fact, of our life” (Brockmeier, 2009, p. 116).

Schooling’s own use of time offers a paradoxical relationship to the linear topology of time. On the one hand the ideal of progress employs the line of time as a measuring means for accrual in which the present and future add in a straightforward way to the past. On the other the emphasis on memory means that the past must occupy a

Now that it is too late, I see him and me clearly, illuminated in the slanting rays of time. (Ignatieff, 1993, p. 26)

permanent place in the present whilst the concentration on “outcomes” and the formal acknowledgement of accrual (exams) makes the significance of the present something which can only be judged with reference to the future. Schooling thereby seems to offer an illustration of Brockmeier’s conclusion that “eventually the assumption of a given ‘time’ with in which we are to localise ourselves appears itself to be an effect of our fundamentally unstable identity and our narrative strategies to make sense of such fluid existence” (Brockmeier, 2009, p. 121).

*Time present and time past
Are both perhaps present in time future
And time future contained in time past
Eliot (1963, p189)*

Understanding and Ourselves

As an alternative to the linear topology of time Brockmeier presents Proust’s picture of time as a pool “the surface-level of which is constantly changing so as to bring...within range now...one epoch, now...another”)” (Proust quoted by Brockmeier, 2009, p. 116). In this pool of time human experience is able to encompass “at any given moment a multitude of different epochs,” a “simultaneity of experiential states and temporalities” (p. 125) more usually thought to be spaced out along the linear flow of time. Such a presentation helps legitimate the experience of time as a gathering around us in which designations of order will be subordinated to unpredictable vagaries and to the mysteries of our own minds. Our subjective experience of time (whether we categorise that time as past, present or future) is unstable, unpredictable, fragmentary and uncertain. It does not adhere to a regular structure and as far as Euclidean geometry is concerned is therefore without shape; formless. The metaphorical disintegration of time as a line opens up a space for the atemporal value which Nietzsche was seeking, “it is no longer possible to separate one moment from another or to subordinate the value of the vanishing present to that of a cherished past or longed for future” (Brassier, 2007, p. 207).

Grappling with the human subjective experience of both time and memory, Brockmeier is led to the conclusion that such is the complexity of this experience that it can only be expressed in narrative and not spatial form: “the more we deal

with human temporalities...the more the construction site is language, and in particular the language of narrative” (Brockmeier, 2009, p. 118). However, we have not exhausted the topological approach to time. Welch offers a construction of time based on non-Euclidean geometry in which temporal continuity is of quite a different order to that proposed by the linear topology of time and able to encompass spatially the complexity characterised by Proust. Welch’s aim is to “strengthen the link between our subjective experience of time and our physical descriptions of time” (Welch, 2010, p. 15) which she does by relating time to timelessness through fractals.

Fractal is a term coined by the mathematician Benoit Mandelbrot to bring together a whole family of naturally occurring, irregular, fragmented patterns (also obtainable through the repetitive application of a simple mathematical formula and computer imaging). This is a new geometry concerned specifically with “those forms that Euclid leaves aside as being ‘formless’”; it is the quest to “investigate the morphology of the ‘amorphous’” (Mandelbrot 1977, p. 1). Through fractals Mandelbrot investigates the patterns created by such natural phenomena as Brownian motion, coastlines, snowflakes and turbulence to name but a few examples. The study of such phenomena reveals self-similar repeating patterns, throwing the concept of scale into confusion; a coast line repeats the same natural irregularities on every scale from satellite imaging to the examination of single pebbles or millimetre lengths of mud on a shore line. These patterns within patterns continue on until they are no longer discernible to the human eye. As Mandelbrot puts it, “the number of distinct scales of length of natural patterns is for all practical purposes infinite” (Mangan, 2006, p. 1 quoting Mandelbrot, 1983).

It is the power of fractals to express the infinite in contained and tangible ways that links the concept to that of time. “In the mind’s eye” writes Gleick, “a fractal is a way of seeing infinity” (Gleick, 1987, p. 98). In defiance of all Euclidean geometry fractals allow “the phenomenon of infinite surface area within a finite space” (Welch, 2010, p. 28). Fractals feature, in endless chasms of elegance, a self-similarity that dispenses with scale and throws the usual touchstones of dimension into disarray. They also, as Welch argues, give us a new possibility for the envisagement of time; the endless curling sea horse tails and swirling scales of Mandelbrot sets are able to put a physical shape to Proust’s abstract intellectual struggles. Proust’s search is to escape the tyranny of linear time and to seek a place of timelessness in which he is free to wander between past and present and to “live and enjoy the essence of things. . .entirely outside of time” (Proust quoted by Brockmeier, 2009, p. 128). Welch’s suggestion of a fractal topology of time is able to give visual expression to the sensations of time described by Proust, Le Poivedon and Brockmeier (amongst many others); as Welch puts it “the subjective experiences of timelessness within time” (Welch, 2010, p. 28). (For a visual journey into such possibilities see Vohra, G. (2006):

www.youtube.com/watch?v=G_GBwuYuOOs)

Approached in fractal form the scales of time, past, present and future, lose their defining differences as their relationship melts away through falling magnitudes of self-similarity. Time becomes a pattern around us, deep endless caverns of which our experience is atemporal as well as fragmentary, incomplete and chaotic. This topology offers us a transcendence of time, neither the eternal recurrence of Nietzsche nor the endless forward flow. Rather an escape from the physicality of time and a nihilistically achieved freedom where being and becoming might be said to lose the terms of their differentiation as the experience rather than the meaning of time rises to the fore. Cyclical notions, such as Nietzsche's eternal recurrence, and lines of time have both struggled with the problem of how to fill the infinite with the finite. New topological ideas have dispensed with the difficulty, the infinite can now be experienced within the finite. The experience of time within our own lives becomes infinite held even as it is within a finite span.

Ourselves and Meaning

The association between progress and time is a powerful one in which expectation has become full blown with promise and the routine extraction of "evidence" to show that this expectation has been met is an ongoing feature of schooling. To claim that such evidence designates progress however, requires two things. First, that "it must be possible to construct an ordering of past, present and future states of affairs" (Meek Lange, no page numbers, 2011); and secondly that a comparative analysis between past and present is carried out once these two states have been established.

This paper questions our ability to do either of these things. The ordering of time is far more complicated than the standard linear topology suggests; indeed time is not "a thing" but an understanding and anything that we relate to time therefore needs to be done so figuratively. However, to claim a progressive improvement in someone's life is not figurative; it relies on a measurement of indicators which by definition must be objectively measurable. The progressive narrative taken up by standard education seeks its justification on the achievement of fixed points that indicate advancement (although it regularly fails to deliver its promise of progress even on its own terms (Palmer, 2011)). We generally prefer not to think too hard about factoring Booth's criteria of happiness, perfectibility and control into ideas of educational progress and we are certainly in no position to argue that education in any way delivers on these things. At this point St Augustine's view that the saved and the damned have been long selected may make considerably more sense than the educational narrative of individual progress.

Hameroff argues "that time does not propel the flow of consciousness but that consciousness creates time" (Hameroff quoted by Welch, 2010, p. 59). The consciousness of education has certainly created a powerful juggernaut of time

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along which to hang the trappings of progress with the assumption that progress can be recognised and the justification that progress will make us better. This picture of advancement has created a certain subject—an historical figure mapped onto a linear topology of time by means of a progressive journey. But this does not always offer a picture in which we can recognise ourselves or our children; nor has it always taken the flow of human consciousness along with it.

If we reconsider time we gain a means by which to re-consider people and therefore a means to reconsider what education might be. Change in people has more implications than progress suggests. Perhaps we need to think more about the nuances of life and circumstance, the shifting of meaning, the variance of life's themes and less about progress and accrual. Furthermore we forget the possibilities of "different" at our peril; not everything is comparable to everything else and progress always implies the shedding of possibilities.

We want progress because we want a better world and we believe this to be possible. It would be in many ways forlorn to give up on this hope as nihilism might encourage us to. But nihilism in turn cannot transcend the thought that it is; only turn us to face the endless creation of entropy to which we may one day add the story of education. Let us in the mean time be very careful about the terms of our wishes. "Progress," "more" and "better" are not synonyms and whilst the ideas behind them have done much to direct education, they have also restrained it. Without them we can be released from the view that children, students, people, (we) are works in progress. We will not need to compare ourselves to each other as more or less finished products. Without progress we can think again about the turning of time. Without progress we can be released into the "complexity and wilderness" (Norretranders, 2003, p. 73) of a life which, as Freeman Dyson (1985) has it, is "infinite in all directions."

References

- Acheson, D. (2002). *1089 + all that = A journey into mathematics*. Oxford: Oxford University Press.
- Aries, P. (1960). *Centuries of childhood*. London: Pimlico.
- Biesta, G. (2006). *Beyond learning*. London: Paradigm Publishers.
- Booth, K. (2007). *Theory of world security*. Cambridge: Cambridge University Press.
- Brassier, R. (2007). *Nihilism unbound*. Hampshire, Palgrave MacMillan.
- Brockmeier, J. (2009). Stories to remember, narrative and the time of memory. *StoryWorlds: A Journal of Narrative Studies*, 1, 115-132.
- Brown, D. (1991). *Human universals*. New York: McGraw Hill.
- Call, L. (1995). *Nietzsche as critic and captive of enlightenment*. (Unpublished doctoral dissertation), University of California, Irvine. Retrieval from: <http://scrye.com/~station/dissertation.html>
- Dyson, F. (1985). *Infinite in all directions*. New York: Harper and Row.
- Eliot, T. S. (1963). *Collected poems*. London: Faber and Faber.
- Foucault, M. (1967). *Of other spaces: Utopias and heterotopias*. Retrieved from <http://web.mit.edu/allanmc/www/foucault1.pdf>
- Foucault, M. (1979). *The history of sexuality [Volume 1]: An introduction*. London: Allen Lane.
- Gaede, N. (2009). Retrieved from: <http://www.youstupidrelativist.com/01Math/01Point/02Euclid.html>
- Gleick, J. (1987). *Chaos*. London: Heinemann.
- Guedj, D. (1998). *Numbers*. London: Thames and Hudson Ltd.
- Ignatieff, M. (1994). *Scar tissue*. London: Random House.
- Lakoff, G. & Johnson, M. (1999). *Philosophy in the flesh*. New York: Basic Books.
- Le Poidevin, R. (2011). The experience and perception of time. *The Stanford encyclopedia of philosophy*. E. N. Zalta (Ed.). Retrieved from: <http://plato.stanford.edu/archives/fall2011/entries/time-experience/>
- Mandelbrot, B. (1977). *The fractal geometry of nature*. New York: W. H. Freeman & Company.
- Mangan, A. (2006). *Fractals a metaphor for constructivism, patterns, and perspective*. Retrieved from: http://www.sagepub.com/upm-data/12779_Ch1_Mangan_Pdf.pdf
- Markosian, N. (2014). Time. *The Stanford encyclopedia of philosophy*. E. N. Zalta (Ed.), Retrieved from: <http://plato.stanford.edu/archives/spr2014/entries/time/>
- Meek Lange, M. (2011). Progress. *The Stanford encyclopedia of philosophy*. E. N. Zalta (Ed.). Retrieved from: <http://plato.stanford.edu/archives/spr2011/entries/progress/>
- Norrendranders, T. (1991). *The user illusion*. Harmondsworth: Penguin.

- Norrendtranders, T. (2003). Science and art in collaboration—The mindship method. In J. Casti, & A. Karlqvist. (Eds.) *Art and complexity*. London: Elsevier Science.
- Palmer, G. (2011). *The poverty site*. Retrieved from: <http://www.poverty.org.uk/26/index.shtml>
- Pattison, G. (2011). *God and being*. Oxford: Oxford University Press.
- Pattison, H. (2013). *Rethinking learning to read: The challenge from children educated at home* (Unpublished doctoral dissertation). University of Birmingham, Birmingham, UK. Retrieveable from: <http://etheses.bham.ac.uk/5051>
- Pattison, H. (2003). *Going back*. Unpublished story.
- Phipps, J-F. (2004). Henri Bergson and the perception of time. *Philosophy now*. Retrieved from: https://philosophynow.org/issues/48/Henri_Bergson_and_the_Perception_of_Time
- Schotte, O. (1984). *Beyond nihilism*. Chicago: University of Chicago Press.
- Sellgren, K. (2014). Freshers “forget 60% of their A-level studies!”. BBC News. Retrieved from: <http://www.bbc.co.uk/news/education-28014519>
- Thomson, I. (2004). Heidegger’s perfectionist philosophy of education in Being and Time. *Continental Philosophy Review*, 37, 439–467
- Toulmin, S. & Goodfield, J. (1967). *The discovery of time*. Harmondsworth: Penguin.
- Vohra, G. (2006). *Fractal zoom Mandelbrot corner*. Retrieved from: www.youtube.com/watch?v=G_GBwuYuOOs
- Waters, M. Y. (2002). Aftermath. In S. Miller (Ed.) *The best American short stories* (pp. 333–342). New York: Houghton Mifflin Company.
- Welch, K. (2010). *A fractal topology of time: Implications for consciousness and cosmology*. Retrieved from: <https://www.scribd.com/doc/29404176/A-Fractal-Topology-of-Time>
- White, J. (2014). *Who needs examinations?: A story of climbing ladders and dodging snakes*. London: Institute of Education Press.
- Wood, D. (1998). *How children think and learn*. Oxford: Blackwell Press.

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