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A. J. Bartlett

The University of Melbourne

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Abstract

This essay addresses the question of change as it is expressed in debates on the introduction and use of new digital technologies in contemporary education. It sets out some of the terms of this debate, concerning MOOCs in particular, and puts into question the very conception of change they presume. The essay advocates a distinction between education, which marks the subjective capacity of all for thought, and pedagogy, which, the essay argues, teaches subjective incapacity for all. The case is made that without a formal conception of change MOOCs will only strengthen the contemporary pedagogical project of difference as repetition. In conclusion, the essay attempts to sketch a conception of real change such that a new orientation to the debate is proposed.

The contemporary "debate" concerning the educational effects or affects of digital technology on education attracts philosophical attention. This is not because philosophy is some instrument of censure or tribunal of value ruling sovereign over all discourse. There are three reasons:

1. These debates deploy rhetoric and aver conceptual elaborations that are themselves drawn from philosophy
2. Insofar as these debates make general claims as to the novelty or inventive aspects of these technologies over and above their technical application and effect, philosophy, ever concerned by the new, by how it comes to be and its consequences, is compelled to take note
3. Since Plato at least, education and the subject of education have been intrinsic matters for philosophy. Being intrinsic to philosophy means that education is linked, as a matter of course, to truths. The link between truths and subjectivity is what matters, for *truths* orient the subject of education to its situation in a way distinct from that which the *knowledge* of education prescribes. This is the invariant aspect of education, the basis of real change.

What follows is partly intervention, partly analysis. Based on the "simple" contention that the production of a truth, in a situation, is what education names, this essay argues that a) educational change must be thought differently from the regimes of change dominant today and b) be directed specifically against the forms of knowledge these regimes presume to be the knowledge of education. We are thinking here of the collection of educational discourses familiar to everybody today, which range from constructivism to neoliberal reformism, and which regularly make certain claims about educational knowledge, as about how best to harness its effects. The key point is that these regimes, if apparently quite diverse in their presentation, are nonetheless united at

the level of their knowledge-operations and subjective effects. The contention is that these regimes, insofar as they condition the contemporary conception of education, produce what we call a *subjective incapacity*—and not, as these regimes necessarily claim, new capacities. This incapacity can be defined as: that form of the subject whose very knowledge of itself as *subject* is the condition of its non-knowledge of its own subjection. Each act of this subject, correlated to the knowledge of the world for which such a subject exists is an act of the (re)production or better, the preservation of this incapacity. This incapacity, entirely co-terminus with the form of a world for which *modification* is its rule, ultimately, is the material form of the impossibility of *real* change. The object of this intervention is the concept of change which predicates debates over the role of digital technology in education. The analysis will argue that this concept of change is inherently un-educative precisely because it is no change at all.

Currently Dominant Regimes of Educational Knowledge With Respect to New Media

Today, there is a major public anxiety over education, prevalent across the globe, whose intensity—both rhetorical and reformist—is ratcheted up at any indication that education might escape the tight rein of established knowledge. Policy documents from Australia, the UK, Europe and the USA are practically unanimous that as the key feature and facilitator of developments in the 'new knowledge economy' education must be 'constantly' reformed to meet the demands of the 'rapidly changing global economy' (Gonski, 2012: WISE, 2011; WB, 2002). Over the course of the last several decades of global capitalist educational reform major figures such as Pinar (1975), Bowles and Gintis (1976), Althusser (1977), Bourdieu (1979), Foucault (1977), Giroux and Aranowitz (1986), Illich (1971), Freire (2005), among many others have elaborated various critiques of these reforms and their predicates, establishing strong theoretical positions and proposing reforms in turn. Some of these proposals, suitably repurposed, have been registered and even appropriated by governmental policy (New Basics, 2001; UNESCO, 2011; WB, 2002). A critique of this critique is overdue: if for no other reason than to rescue it from the inclusive clutches of the state.

The rapid evolution of new media technology has extended and intensified these already intense debates about the future of global educational change (Bulut, 2011; Jorgensen, 2007; Scholz, 2013). A recent study notes that in the '[i]nformation age … learning itself is the most dramatic medium of […] change' (Davidson et al., 2009). While another asserts that digital technology, in the form of Massive Online Open Courses (MOOC), will usher in a 'historic transformation' both in the way education is delivered and in the way it is conceived. The 'four V's' of the Web—the sheer amount of data out there (volume), offered in so many different modes of delivery (variety), available anytime and anywhere (velocity), and at different levels of data depth, accessible differentially from novice learners to expert researchers (variability)—constitute a 'disruption' of all existing systems of education (Butin, 2012).[1] Although critics point to the links between the changes wrought by Internet technologies to educational engagement and 'participation' and global commercial interests—centred especially on the mining of individuals' data (Dolby, 2004; Scholz et al., 2013)—the backing and involvement of elite educational institutions is, it is said, 'legitimising' these changes, thereby ensuring their impact on the future of education (Hill, 2012). What these debates suggest is a tension in contemporary discourse on educational change between 'education as change' and thus as an inherently unstable site, and 'changes to education' as the effort to stabilise change itself (Long &Seimans, 2011; Peters, 2011; Roche, 2013). This crucial distinction, bearing on our conceptual double—education

and subject—will be elaborated further below.

One of the key features revealing this tension is the language used to describe the impact of new technologies and economic priorities on education. Digital technology is said to usher in an "historic transformation" in not only the way education is delivered but also in the way it is conceived such that there is the potential for 'a fundamentally new paradigm' (Butin, 2012). Moreover, the 'technological revolution' currently taking place in online education which, it is said, has the capacity not only to enable information input at a single site to reach anyone on the planet instantly, but allows for the sharing of information, work and data across borders and cultures is, it is claimed, by virtue of its educational effect, 'a social revolution' (Downes, 2005). 'New organizations are being created to offer new kinds of degrees, in a manner and at a price that could completely disrupt the enduring college business model' (Butin, 2012). The discourse of the 'knowledge economy' has already marked this modal complex of policy, economy and technology and is similarly tasked to produce 'flexible', 'adaptable', 'entrepreneurial' and moral subjects: 'lifelong learners, adapting continuously to changed opportunities, work practises, business models and forms of economic and social organization' (Bartlett, 2011a; New Basics, 2001; WB, 2002;). Thus in conformity with, rather than in opposition, key figures in digital media and online learning speak constantly of the potential of internet technologies 'to [change] just about everything about how we think about […] education' given that it is now possible to create 'a never-tiring, self-regulating, self-improving system that supports learning through formative on-demand feedback' (Butin, 2012; Long &Seimans, 2011).

Much of this discourse today concentrates in the discussions of MOOCs.'A MOOC', one expert claims, 'integrates the connectivity of social networking, the facilitation of an acknowledged expert in a field of study, and a collection of freely accessible online resources. It is a 'course' that is 'open, participatory, distributed' - life-long networked learning. It is 'not a school or just a course,' but an 'event': by which one 'connects and collaborates'—'engaging in the learning process itself' but 'in a structured way'. Choice, this expert says, retroactively confirmed via 'participation', is built in. It is 'a key feature all the way through…. And even success is your choice *just like real life'*(Cormier, 2010a).

These events of 'rhizomatic community engagement' (Cormier, 2010b) – undefined by experts but strangely recognisable to 'educators' alone—are said to be effecting a 'campus tsunami', a 'historic transformation' and an 'education revolution' (Blint, 2012;Boxall, 2011). That MOOCs, conceived as an event, are said to build on 'established distance learning models' but remain distinct in terms of access and by the forms of participation required to make them work, brings to the surface a division well known in contemporary continental philosophy between events and consequences; of thinking at the same time continuity *and* discontinuity. At stake in this is the possibility of the new itself—that is, for the emergence of something that is not simply a repetition of the old in different guise—and, in our reading, finally of any possible subject not constituted in some way by the 'continuities' of known knowledge. This means that the very *form* of the relation between 'event' and 'consequences' impacts decisively on what one even understands by education. If the MOOC is both event *and* real change at once, ostensibly sufficient in itself to change the 'educational paradigm', we have no subject except as pure emergence. If these two are distinct, it is because there is a subject unsupported by whatever discourse of continuity is in effect. Concomitantly—and this is an internal debating point not an opposition to this educational event/revolution—questions concerning the 'educational legitimacy' of MOOCs, the conditions for their possible credentialing, have been solved, it is argued, by the coming on board of so-called "elite institutions" (Harvard, Stanford, UCLA, Edinburgh, Melbourne etc.), who 'are publicly extolling the value and quality potential of online education, and are willing

to invest tens of millions of dollars' (Hill, 2012). Credentialing is key to the capacity of these 'partnerships' between entities like Coursera, Udacity and edX and these institutions to charge fees for these 'post-courses' courses. However, this is not where the money really is.

While 'change' is subscribed to by (almost) all participants in the education-technology debate for some pre-eminent figures in the world of techno-pedagogy such as Long and Seimans (2011) and Blint,(2012)who see the changes MOOCs announce as more a matter of process, the potential transformative power of MOOCs is far from being fully exploited. For these thinkers the 'analytics' (data mining capacity) made available by MOOCs, specifically by the *participants* in these so-called 'post-courses', have been underexploited, and the *educational* potential they possess are being wasted. Analytics means, essentially, that every keystroke, 'tweet, status update, page read online' can be analysed to ensure that every 'learner' is targeted 'with resources relevant to his or her profile, learning goals, and the knowledge domain the learner is attempting to master' (Long &Seimans, 2011).[3] 'The idea is simple yet potentially transformative: … Continued growth in the amount of data creates an environment in which new or novel approaches are required to understand the patterns of value that exist within the data' (Long &Seimans, 2011). All this, of course, under the coincident network rubric of openness, sharing, connectedness, togetherness and community.

Placing the Burden of Change in the Learner who is not a Subject

This discourse of innovation, transformation and change, rooted in the *learner*, note—in a manner not clearly determined but no doubt ideologically prescient—resonates throughout the blogs, discussion boards, online journals, academic articles, policy documents and book-length research projects devoted to the topic. One commentator sums it like this:

> This approach to learning means that learning content is created and distributed in a very different manner. Rather than being composed, organized and packaged, e-learning content is syndicated, much like a blog post or podcast. It is aggregated by students, using their own personal RSS reader or some similar application. From there, it is remixed and repurposed with the student's own individual application in mind, the finished product being fed forward to become fodder for some other student's reading and use (Downes 2005).

For Downes, with all the innocence of one unfamiliar with educational history, this means two things: that learning 'is becoming a creative activity' and that the 'venue' is not an 'application' but a platform. What this means, then, is that the notion of the medium is (supposedly) finished—platform and learner are synthesised—and subjectivity, other than as *incapacity,* becomes null and void. Because this 'self-recursive stream of numbers' effectively renders all creativity, precisely *media*, as inexistent, 'consigned to disappear' as Kittler tellingly remarks, 'into the black-holes and boxes that, as artificial intelligences, are bidding us farewell on their way to nameless high commands' (Kittler 1999; xxxix). To be clear, the problem here is the subjective weakness of these 'new' technologies and not their overweening power. This weakness is precisely expressed *in their filial subservience to the prevailing discourses on education*, the very 'object' they suppose they are overcoming. We constantly reencounter this structure, whereby declared radicality in fact simply rehearses the most archaic aspects of what it purports to supersede. Boris Groys pointedly articulates this problem against emergence

theories in terms of an inability to grasp the key distinction between what is truly new and what is different. 'Difference' he points out, citing Kiekergarrd, 'is recognised as such only because we already have the capability to recognise and identify this difference as difference. So no difference can ever be new—because if it were really new it could not be recognised as difference' (Groys 2002).

Certainly, the rhetoric concerning these new technologies is such that we would expect that a real discontinuity or something truly new has been established between what passed as education before—and thus its subjects—and the 'revolution' or 'paradigm shift' now coming to pass.[4] Yet this rhetorical exuberance seems, as in ancient times, to go hand in hand with a casual and inconsistent use of terms and a concomitant conceptual free for all. Especially revealing, and a key aspect of the (re)production of this 'subjective incapacity', is the interchangeability and conflation of the terms used to promote the extent of its innovative capacity: change, reform, transformation, revolution, disruption, paradigm shift, and so on, are used as synonyms and often without reflection on their use (BER, 2011; Boxall, 2102; Butin, 2012; Friedman, 2012; Long &Seimans, 2011). While there is little doubt that 'changes are occurring,' it is clearly the case that certain changes may secure existing practices rather than re-*form* them, while certain reforms may serve to strengthen set paradigms; equally, a 'disruption' cannot itself be equated with a revolution. In effect, certain discourses of change may act as limits to rather than an extension of educational change. This is precisely what is meant by modification—as we will see.

Between Globalisation and Universalism

Unguarded assumptions concerning the subject of education abound—in both senses: education as the subject under debate and thus considered as an object and the subject with which education is concerned. I say *the* subject and not *subjects* because it is the subject which is precisely in question. What implicit, unthought theory of the subject are these debates working with or, more accurately here, what (theory of the) subject are these debates assuming? The continually invoked notion of 'participation' is one example: is the subject the outcome of participation? Is there a subject who participates or is participation, as in Plato, a subjective process in itself? And of course this only begs the question of just what it is one participates in. No doubt 'education' is what one is meant to be participating in, but this again begs the question, if not of 'what it is' then at least of which form of education is at stake. Is it the same form as prior to the digital revolution of all paradigms, or do they have in mind some other education? This applies, by the way, to those on 'both sides' of the claims for this new affective education—those who see it as coincident with the logic of capital, lets call it, and those who see it as emancipatory of it in some way.[5] In reality, however, at the level of the subject of education – thus what it is *and* what it affects—it appears little has changed at all. What we certainly have is a new *technique* but the problem of a new technique—as Plato argued—is that it assumes the knowledge of the thing for which it is a technique. In other words, what type of the subject can technology produce? Is it 'new'? Long and Seimans sum up this 'all change' succinctly.

> Something must change. For decades, calls have been made for reform in the efficiency and quality of higher education. Now, with the Internet, mobile technologies, and open education, these calls are gaining a new level of urgency. Compounding this technological and social change, prominent investors and businesspeople are questioning the time and monetary value of higher education (Long &Seimans, 2011).

We note that in each case we have referenced here, the *address* of the claims is always to all. These revolutionary changes issuing from some centre or other will as a matter of course affect everyone insofar as education is a global enterprise. And where such change is resisted—which is always also cast as a sign of barbarity, backwardness or even evil—it will be what education is for them too, one day soon. This is the case, even if the use of terms like 'community' is not without certain conceptual problems (as post-colonialist studies have exemplarily argued), notably to do with modalities of exclusion. Since at least Marx, that other great thinker of the nexus of technology, knowledge and capital, we know that there are at last two ways to think the 'all' addressed by such discourses: in terms of globalisation and in terms of universalism. We can express this for our purposes this way: globalisation is the expression of what can be done with this for all (the subject of the address); universalism is the expression of what this for all can do (as subject).

Education Considered as Transmission, Subjectivity and Transformation

Under this distinction, let's say, then, that there are three fundamental aspects to education, whether globalising or universalist: transmission, subjectivity and transformation. These—the means, form and address of a discourse; the material affect of participation (however understood); the name of the educational effect (again however understood)—one way or another, as we have seen, are recognised by all 'participants' in the debate and by us *who are not*. These will act as the interlinked points by which we proceed to see what truth there is to the claims made for these digital technologies with regard to education. The discourse on MOOCs, as noted, certainly touches on each aspect and in turn conditions the form of their relation specific to it. But what is this change inscribed at the centre of this debate? What can change be in a world where change has established itself as the norm?Where the rapidly changing conditions of everyday life are supposed beyond anyone's control and where education is nominated as the facilitator not of these changes *per se* but as what provides subjects capable of adapting to or being flexible before this change?. Subjects, thus, capable (only?) of reproducing such 'change' as the ground of their subjectivity. These subjects are subject to the absolute un-changeability of the form of change that there is.

In this sense, the much heralded move from 'application' to 'platform' does not at all challenge this *subjective incapacity* recognised in the 'old ways' but does 'smooth over' or plane-ify the contradiction that makes any thought of the subject possible. If all is platform or 'plane of consistency' over which content travels indiscriminately then there is no point—we have no doubt 'violently imposed' (Badiou, 2007, p. 510), what Badiou calls a 'pointless' or 'atonal world':

> it is clear that atonic worlds are simply worlds which are so ramified and nuanced—or so quiescent and homogeneous—that no instance of the Two, and consequently no figure of decision, is capable of evaluating them. The modern apologia for the 'complexity' of the world, invariably seasoned with praise for the democratic movement, is really nothing but a desire for generalized atony (Badiou, 2007, p. 420)

Groy's marks something similar when he says, 'innovation has become a ritual' (Groys, 2011a). Referring specifically to internet technologies he continues that 'all the processes of renewal and innovation etc. have become extra-human, extra-psychological, extra-individual, and are functioning according to the circumvention of individual and

collective practices of remembering'. Moreover, 'It's just like these [post-modern academic grant] applications in which non-innovation [is] offered as innovation' (Groys, 2011a).[6] In other words it is the pointless reproduction of pointless worlds, entirely possible because there is nothing not-it to interrupt the flow of 'the conservative succession of instants' (Badiou, 2007, p. 509). For Badiou, and for Groys too, however, the new is for all this not impossible, or rather it is the impossibility inscribed at the heart of the platform itself that must be affirmed, held to, and the consequences drawn. Badiou enigmatically says: 'Every human animal can tell itself that it is ruled out that it will encounter always and everywhere atonicity…' (2007, p. 514).

This is the double paradox of discourses of change today, to which the technological, for all its intensity and audacity, reveals itself to be only an addition and not at all something new, something subtractive of or withdrawn from the contemporary knowledge of education. On the one hand it belongs to a paradigmatic logic of ends—the end of *history*; the *end* of capitalism and parliamentary democracy as the apex of possible worlds—which is to say, there is *now* 'nothing new under the sun'. And yet, grounded by this unchangeable horizon, which is of course, as ever, off limits to thought—inaccessible, ineffable, atavistically infinite or forever 'emergent'—there is nothing but change. If *modularity* (Nash, 2013) is the name of the present void of the (educated) subject, *modification* is the transcendental condition of such a world. The cartoon character Homer Simpson provides us with a clear image of this state of the situation when, criticising some new commodity invention to difficult for him to master, he asks: 'why didn't they just take an existing product and put a clock in it?' One can ask this question, slightly reframed, of the 'reformers' or change agents: Have you not just taken an existing product, education, and stuck a (digital) clock in it?

The instrumentalisation of education considered as instrument.

Without at all having to leave aside the commodity form of education—which is as intrinsic to this *reform* debate as it is symptomatic of its ignorance of education—the underlying assumption of this whole reform debate is that it knows already what education is. Paradoxically, in the midst of all this change, education—such as it is known—is unchangeable. What will and must in fact continually change—and thus *difference* is mistaken for *the new*—is the technique for its manipulation or instrumentalisation relevant to the demands of a logic extrinsic to it. Hence claims like: 'Analytics in education must be transformative, altering existing teaching, learning, and assessment processes, academic work, and administration' (Long & Seimans, 2011).Thus, if instrumentalised, no matter the technique, it is instrumentalised for something else, for something else beyond education itself. This something else, then, must presume to mark the limits of education itself? Which is to say, it takes the form of a known knowledge: a knowledge off limits to education. But there is another, further twist, for this knowledge of education, which in order to maintain itself must constantly alter its techniques in order to appear as the current knowledge of education, is constrained by an altogether immanent aspect of education: that it is fundamentally about change itself. In other words, the knowledge of education as a technique changes in order that the intrinsic capacity of education for change is made impossible, and from within the debates on education itself.

The current debates about education are themselves being instrumentalised by the knowledge of education they presume, defer to and support in their efforts to instrumentalise education—theory, policy and practice—in support of that knowledge. We have an instrumentalisation of an instrumentalisation. And this doubling takes place

in order precisely to forestall the transformative effects of education as such—known to be troublesome for all states throughout history. Such effects are the immanent truths of any possible concept of education and, for all that, to adopt a notion of Groys, are as such *withdrawn* from the market or the logic of capital, which provides the temporal horizon of our contemporary knowledge. Education is something like a site relative to capitalist knowledge; it *marks* a divested point, an emptiness in the territory of capital. It remains over, and this indeed with regard to any 'state knowledge' (capitalism is simply the state of our situation), 'for the purpose of creating something that was meant for eternity and not for time' (Groys, 2011b).

Appropriately, this contradiction, to use some old language, or disjunction, to appropriate some more recent, is not new—it is part of the history of education itself. Plato elaborates this for us in the struggle against the dominant market technique of his day, sophistry, which already offered the youth or 'learner' the knowledge necessary to know that the interests of the state were in their interest or, to make its individual way in the world *as it is*. This is the mark of an educated subject to this day—even if, following Rancière (1991) here, we should properly call this *pedagogy* and reserve the name education for that form which divests itself of this state pedagogy as the mode of its becoming true. That this disjunction, the effect of education's intrinsic withdrawal, is a constant of debates on education should be pause for thought, especially amongst knowledgeable commentators on education.

Can real change really be thought: the thinking that cannot not be done.

Against this contemporary return and repetition of the sophistic motif, a twofold question must be posed: What is understood by change and what type of subject is conceived, supposed and created with regard to this technological conception of educational change? Of course these two questions are themselves somewhat supplementary to the question we invoked at the level of the concept: what is education? This question, which cannot be answered with regard to technique *alone,* is always foreclosed in debate precisely because to even pose it supposes a distinct orientation to the *knowledge* of education. In other words it supposes the existence of a point outside knowledge other than on knowledge's terms. We have elaborated a book-length response to the question 'what is education' (Bartlett, 2011)? It maintains that it is demonstrable—it has a trajectory, consequences and an orientation that can be traced and established as consistent under varying conditions and relative to distinct situation. Thus we can say what it is and hence we can recognise *when* it is not. This cannot be elaborated here.

However, the key to the demonstration is the intrinsic link between education and truths. Alain Badiou observed with all irony back in 1988 that, 'truth is a new word in Europe'; but of course it is always what is at stake in education: that there is something other than known knowledge, that it invests the situation with new forms of transmission and that some subjects form or are transformed on the basis of it. In his 2004 essay on the relation of Art (which produces the truths of the 'art-world') and Philosophy (the discourse of their *composition* with the truths of politics, love and science) Badiou makes the declaration, 'the only education is an education by truths'. He continues: the 'entire insistent problem is that there be truths' (2004, p. 13-4). Without them, without their *exceptionality* to the normal course of things—assumptions, laws, beliefs, knowledge as such (Badiou, 2007, p.1) —education will be only a matter of received or established or dominant opinion; battered this way and that depending on the dictates or determinations of what norms or knowledge prevail outside it, but within the 'class struggle in theory' that is educational reform today.[7] It is this link between

education and truths that means that education can be conceptualised, and with regard to what Badiou calls *real* change—as distinct from 'modifications' or 'facts'.

In the short space left we will reductively sketch out Badiou's typology of change within which the discussed claims to change can be situated. From his earliest work in the 1960's Badiou has been committed to conceptualising the form of *real* change; which is to say, 'can there be something new in the situation' (Badiou, 2005b, p. 253)? But of course, as he says, to think the new in situation we need to think the old. We have done some of that above. In his *Logics of Worlds,* a text from 2005 that builds on his formal reconfiguration of ontology in 1988's *Being and Event,* Badiou sets out a formal *onto*-logically rigorous typology of change and links it explicitly to a type of subject. Its very useful to any thinking of education for three reasons which we will take one at a time.

The truth/knowledge couple

Badiou's typology of change refers to a dynamic reconfiguration of the distinction between 'truth' and 'knowledge'. Badiou opens *Logics of Worlds* by wondering what it is we think about our situation today, especially when we are not 'monitoring' ourselves (a suitably pedagogical term)(Badiou, 2007, p. 1). In other words, he asks 'what is our natural belief' – 'in keeping', he says, 'with the rule of an inculcated nature'. He contends that 'natural belief is condensed in a single statement: There are only bodies and languages' (Badiou, 2007, p. 1). This is the axiom of 'democratic materialism,' which is for him the name of the knowledge of the world today – it is the knowledge that fashions us as individuals. Against this, Badiou proposes a counter axiom: 'there are bodies and languages except that there are *truths*' (Badiou, 2007, p. 4). Truths are exceptions to the inculcated, pedagogical rule of democratic materialism and as such, they are not reducible to or recoupable by knowledge—sensory, experiential or linguistic. The modes of change constitutive of the knowledge of 'bodies and languages' are irreducible to the form of change that has done with this knowledge itself. This latter form of change is exceptional to knowledge tout court. The key thing to note here is that what we called education or rather the change that is properly effective as education is the latter and not the former. The former are changes to education and not educational change. Changes to education are such that a) it treats it as an object of known knowledge and b) that works to forestall the real changes that (a non-democratic materialist) education announces and produces as a matter of course. A truth for Badiou is a *generic*, subjective and transformative procedure, while knowledge acts upon truths as a stabilising and reformist force. In other words, truths are dynamic and subjective interventions within situations or worlds of established knowledge, which produce precisely a new orientation to this world whose effect, affected point by point, is to displace this knowledge from within. Truths have to be established in fidelity to an event. They are not what is adequate to or an instance of established knowledge. Hence a true education is oriented to the world with regard to an established break with its knowledge, by what exposes there the site of its lack.

Knowledge as *encyclopedia,* as Badiou calls it, is predicated precisely on being coincident with the all of the whole. Badiou's ontological formulations show the inconsistency of the latter – the One is not (Badiou, 1999; 2005a)– and the theory of the event, authorized by this rigourous thinking of inconsistency as such, establishes that what is exposed by the event for a situation is this point of inconsistency. In short, there is always within any regime of knowledge its point of lack—its void-site in strict terms (making it categorically unlike Deleuze!)—around which it organises itself. This 'lack' is the 'excess' (unknowable) that any such knowledge guards against and is

therefore a *condition* of its knowledge. In other words, knowledge cannot know the void or lack at its heart and must therefore produce as knowledge this non-knowledge. The debates on education that *presume* a knowledge of education in their debates and so rely on its currency in knowledge are, then, effectively producing the non-knowledge of their lack. Knowledge first and foremost produces its own lack of knowledge. But that is not the issue per se. Rather, it is the production of this lack as knowledge itself, that is, that this lack must *not be known*, that is the real horizon of this discourse or its genuine excess. For Badiou, while this excess is 'incalculable' and therefore cannot be known as such, it can be decided—in and through the construction of a generic, indiscernible or new set. In other words, to decide is absolutely consistent with what ontology formalises.[8]

Truths are not thereby of being itself but are totally contingent on the contingency of an event or the irruption in a situation or world of that which-is-not-being-qua-being.

> But neither is genuine change given to us on the side of appearing, or of the transcendental constitution of being-there, on the side, that is, of worlds. For the appearing of a being in a world is the same thing as its modifications in that world, without any discontinuity and thus any singularity being required for the deployment of these modifications (Badiou, 2007, p. 358).

Truths are subjective productions, subtractive of being as of all knowledge. This distinction or coupling between truths and the knowledge which truths interrupt and avoid as a matter of *course* is operative in all forms of discourse specifically when change or the 'new' is at stake.

Modification, fact, singularity – intensity

Badiou elaborates a formal typology of change drawn from topos theory, itself a sub-set of Category Theory. The aim is still to trace the trajectory of a truth in a world but this time in terms of its *appearing there*. The sets of relations which affect and determine what it is to appear is what makes up the logic of appearance or 'existence', and topos theory provides a formal account of what Meillassoux calls the 'diverse consistencies revealed to us in experience' (2011, p. 6). What matter here are the three types of change made thinkable by such an *onto*-logy. These are: modifications, facts and *real* change or *singularity*. They are distinguished in terms of their intensity or affect and their relation to the transcendental specific to their world, which is to say, 'established knowledge'. Approximating to the language of the above examples, modifications are akin to reform, facts to disruptions, and real change to transformationor the instance of the new.

For Badiou any world, in terms of its appearing as such, is transcendentally structured. The transcendental is the 'locus of the relations of identity and difference by means of which multiples make 'worlds" (Badiou, 2011, p. 75). This is a relation of order of a specific sort in so far as what appears does so in terms of intensity and intensity is a matter of relation—the relation of one multiple to another. What appears most intensely in a specific world determines the intensity of appearing of the other multiples marked to exist in that world. A world is structured in terms of a maximal intensity of appearing or existence, and a minimum. 'The intensities of objects and relations are measured according to a singular temporal transcendental, which objectivates in their appearing multiplicities…' (Badiou, 2007, p. 359).In a world, for example, where knowledge provides the transcendental rule, those deemed knowledgeable will appear more intensely than the unknowledgeable or 'uneducated'.

This is a reductive example but accurate enough. Most objects relative to a world, Badiou says, appear somewhere in the middle.

It is impossible to flesh out the entire nuance, let alone all the technical apparatus. If we understand that to appear in a world is to appear for the transcendental of a world, thus relative the knowledge of the sets of relations organised vis-à-vis the order of intensity, then what we need to know is simply: '[…] the appearing of a being in a world is the same thing as its modifications in that world, without any discontinuity and thus any singularity being required for the deployment of these modifications' (Badiou, 2007, p. 358). In a world stabilised by an established knowledge, one in which any point of difference, such that its difference cannot be marked by that knowledge is always already the operation of a modification. To *be-there* with some degree of intensity above the minimum (which is to inexist for a world (which is not to not be)) is to exist as and to consist in being modified.

> [T]his logical identity of a world is the transcendental indexing of a multiplicity—an object—as well as the deployment of its relations to other multiplicities which appear in that world. There is no reason to suppose that we are dealing with a fixed universe of objects and relations, from which we would have to separate out modifications. Rather, we are dealing with modifications themselves… (Badiou, 2007, p. 358)

In other words, then, modification, as the 'rule governed appearing' of difference as such is the norm of a world and is not *change*.

Change is something more than mere modification and something distinct from a fact. However, while modifications are coincident with the transcendental, a fact and a *singularity* (real change) have in common what Badiou calls a 'site'. In short, a site marks the limit point within a world or situation of established knowledge. Beneath the site, so to speak, there is nothing—it marks the point of *inexistence* or an abnormality inadmissible to the logic of the state: it is present but not represented; its parts are un-*knowable*. A fact, then, is a site, Badiou says, 'whose intensity of existence is not maximal' (Badiou, 2007, p. 372). It is not *evental*. It does not carry in its becoming the disruptive force necessary to effect a change in the logic of that world itself. While a fact is not of the law as such, it cannot alter this law either. A fact points at change but is not itself real change. A fact is recoverable for a world.

Badiou admits into the schema a distinction in singularity between weak and strong. A weak singularity is an evental site such that it does not produce consequences. In other words, it cannot make a minimal existence pass into a maximal as can an event or strong singularity. A strong singularity—which is an event—is 'a site whose intensity of existence is maximal' (Badiou, 2007, p. 372). Every world admits an element properly inexistent to it. This properly inexistent will be an element of a site. If there is an event, it is the eruption of this properly inexistent or that which exists minimally for that world, such that what happens becomes the index of its happening: hence 'singularity'. The minimally appearing element of that world comes to appear maximally—which, given the site has no known or presented elements, is patently illegal. So an appearing minimal of a site, of a sudden appears maximally. What the event signifies is the non-impossibility of a change in that order—in the 'unbroken phrasing of the world'—as Badiou says. However, this is not enough—the *world* is not changed—except that an exception has been marked: that an exception is not impossible. But maximality is consequential. In the world as it goes, there is a maximal appearing and this gives the world its rule—the order to its appearing and thus when the minimal becomes maximal the possibility exists that the entirety of the transcendental order be changed—nothing

becomes everything. So if 'nothing' or rather the *trace* of the event (events as such appear to disappear) comes to occupy this place, or in other words to present itself as the new point of orientationfor the conjunction of a topos (or world)—a new form of collection—all relations are up for grabs. This trace, Badiou says, is the 'eternal' existence of the inexistent, the outline or statement, in the world, of the disappeared event. Education, we can say is this trace, manifest in the object body constructed by a subject point by point—an orientation, a trajectory, a materiality, a transformation, addressed to all. 'There is no stronger transcendental consequence than the one which makes what did not exist in a world appear within it' (Badiou, 2007, p. 376). The event gives to the subject the chance of an *other* orientation than that deemed to exist. 'The event is neither past nor future. It presents us with the present' (2007, p. 384).

The subject (of education)

These modes of change are elaborated with a theory of the subject linked generically to both truths and transformation. In this way education is linked to truthsor what is new, beyond what is already known and thus intrinsically to change (Badiou, 2005b; 2007): and not extrinsically as for reform movements and technical 'innovators'. The three types of the subject derived are the reactionary, obscurantist and faithful.[9]The key is that each subjective type is also linked for a particular world to a singular *event* of that world. Subjects, then, are *reactionary* to, *occlusive* of or *faithful* to an event. These figures of the subject are the appearance of three forms of subjectivisation, relative to the 'new body in the world' an event makes possible. That of the reactionary is of an 'indifference: to act as though nothing has taken place or, more exactly, to be convinced that, were the event not to have occurred, things would be basically the same'. It 'quashes what is new within the soft power of conservation'. The subjectivisation of the occlusive 'is hostility: to consider the new body as a malevolent foreign irruption that must be destroyed. In this hatred of the new, of all that is 'modern' and different from tradition, we recognize obscurantism' (Badiou, 2011, pp. 91-2). Thus the obscurantist changes or intensifies its forms of rhetoric or, if in a position to do so, its repressive capacities in order to make sure there is no fundamental change, while the reactive subject adapts to the world in terms of its ordinary modifications since 'there is no alternative'. Conceptions of education correlated to either of these forms of subjectivisation cannot be considered educational precisely because they refuse to think the impossibility of their worlds and so pre-suppose a knowledge of the limits of knowledge as such—which cannot itself be known.

Real change is the upheaval in a world of the very logic that holds it together, that provides its consistency, and is at the same time the procedure by which a new truth of that world is set out for it, point by point and by which a new body or subjective formation for that world is constructed—one that draws on the equal capacity of all inhabitants of that world to 'not know its knowledge'. In other words the faithful subject is marked by its 'incorporation within the [new] body, enthusiasm for what is new, and active fidelity to that happening that locally disrupted the laws of the world through its advent' (Badiou, 2011, p. 91). Somewhat enigmatically fidelity marks that:

> a truth process is the construction of a new body that appears gradually in the world as all the multiples having an authentic affinity with a primordial statement are drawn together around the latter. And as the primordial statement is the trace of an event's power, we can also say that a body of truth results from the incorporation within the consequences of an event of everything, within the world, that has been maximally impacted by its power

(Badiou, 2011, p. 90).

Here is the crux. Badiou's ontology and its onto-logy too, establish via a universalisation of non-inclusion the not-impossible belonging of all to the new truth of the situation. Real change is correlated to the non-knowledge of the situation, exposed in the event, whose consequences are drawn by the subject—as its thought/practice or as what is *education*.

Conclusion: One more effort please…

Technology is always much weaker than its advocates seem to believe. In truth this weakness is concentrated in this belief. In 1795, when the French Revolution had gone over to the side of restoration the Marquis de Sade wrote a tract extolling his fellow countrymen: 'Frenchmen, one more effort please if you would become Republicans'. Sade offered a new radicality to what it meant to 'become Republican', to follow this 'desire' right to the end. Without this, he declared, the real 'murderers and thieves', the state and the wealthy, would keep on getting away with it. The rhetoric of the MOOC, of its educational capacity, despite the animate desire of its most wide eyed proponents, only delivers this new technique over to the hands of those in the position to continue to get away with determining for all what education is. Despite what such technological innovations can do, what possibilities they suppose, MOOCs and their like will remain inscribed in the vicious, expansive circle of capitalist or state logic, replicating and repeating, modifying over and again the subjective incapacity this logic demands. The weakness of technology, shackled to this logic, is that it never actually does do what is claimed, that its subjectivisation is actually of a bastard kind—it engenders what it does not want and wants what it cannot engender. Beneath all the fanfare of its arrival, its result—the intensification of the procedures of the pedagogy that already exists— commands only new rounds of cynicism, fatalism, defeatism: in the last instance and at best an emergent ecstatic nihilism supported by a hybrid humanism-vitalism which is destined to merely repeat, with difference to be sure but without the very possibility of the new. Such is why the rhetoric of the MOOC is so fervent, so desperate, so hollow: the symptom, nevertheless, of a real desire which demands to be taken up. If the greatest efforts of technique return us yet again and with greater intensity to what there is then *what is there*? What can be done? This is the trace of an education, the force of the subject, the demand that we truly recommence.

Notes

[1]Butin (2012) cites Kevin Carey: the 'monopoly has begun to crumble. New organizations are being created to offer new kinds of degrees, in a manner and at a price that could completely disrupt the enduring college business model.'

[2] While we think the notion of revolution is overwrought, though as hysterical, instructive, we might add, that it's a *class* one too. Of the kind perhaps Marx and Engels allude to in the *Manifesto* – 'The bourgeoisie, historically, has played a most revolutionary part' (48). Gramsci, in the *PrisonNotebooks*) notes that under the bourgeoisie 'the state has become an educator', while Rancière in *TheIgnorantSchoolmaster*) will call this rule of knowledge that designates the sites of non-knowledge the pedagogicisation of society.

[3]Butin is quoting Kevin Carey.

[4] While some advocates acknowledge the privacy implications, they are certainly not considered to be overarching. The nexus of capital, knowledge and surveillance is

finding a new avatar. There are many books and articles now dealing with the question of 'digital labour' but the key qualifier here is the notion of education, which is the trump card for the business investors. Under the cover of 'learning' almost anything is possible – as it once was under the cover of God.

[5] In the words of one commentator: 'A fully-automated, massively-networked, natural language processing, data-driven, feedback-friendly, learning analytics system' (Butin 2012).

[6]'For example, if you want to obtain funding for a scientific or artistic grant application, you will, of course, have to explain what the new results of this application will be even if you are thinking in a postmodern fashion. I have read a great many applications of this kind. They all were, or are, postmodern, and they all claim in their texts that there is nothing new. But in the rationale for why they should receive money, it suddenly transpires that they have absolutely revolutionary, new insights. We are living in this situation in which we want to be innovative not because we are driven by creative insights and energies, but because we are carrying out the rituals of innovation, which are repetitive in themselves' (Groys 2011).

[7]After Rancière's thoroughgoing critique of Althusser, which is indeed a lesson, we use this term with some irony and not at all to support the notion. Rather, the education debates referred to here are internecine insofar as most participants share a concept of education and, as mostly academics, a 'class' position – whether related to 'cultural capital' or otherwise.

[8] For this concept of the generic or the new Badiou draws on the work in transfinite set theory of mathematician Paul Cohen. That a *generic* set, one not bound in its construction to any existing predicates, can be shown to exist serves as the formal model of how a truth can be thought entirely distinct from knowledge. As generic, a truth is 'for all' in so far as there is nothing to prevent 'anyone' being connected to it. Indeed, its that everyone shares the capacity to *not* be known by the 'state' – represented by it or included in it (or counted as one-part by the powerset) – that is the basis for some new truth of a world. *Forcing,* the 'law of the subject', is intrinsically related to this set and is another of Cohen's terms. Forcing is the operation by which this generic set or new truth (everything being a 'multiple') come to be in or for a world. Coming from the 'nothing' that is there this new collection of elements forces the situation to change on the basis of its capacity to demonstrate or to manifest its being there as a part of that world – precisely 'where and when' no such part could be known. See *Being and Event*, Part VII.

[9] There is a fourth mode of the subject – resurrection …

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Biographical Statement

A. J. Bartlett teaches at the University of Melbourne.

Email ajbar@unimelb.edu.au