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Beyond curriculum: Groundwork for a non-instrumental theory of education

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ABSTRACT

This paper problematizes current thinking about education by arguing that the question of educational purpose is not simply a socio-political question concerned with what the ends should be and why, but can also be understood as a structural question, concerned with the way we understand education's directional impetus. We suggest that it is possible to understand education as something other than a curricular instrument designed to facilitate a purpose external to itself. We challenge such an instrumental view by arguing that education is an *emergent* phenomenon with its own unique aesthetic qualities (like art or music); a phenomenon, moreover, that does not simply serve a purpose, but generates the purpose it serves. In this paper we lay down the groundwork for such a non-instrumental understanding of education by combining the notion of emergence with ideas from Cassirer's Philosophy of Symbolic Forms, Aristotle's teleological notion of the 'ideal' as self-generated and the Greek notion of 'paideia.' This provides an opportunity to theorise education's directional impetus as the ongoing and open-ended coordination of three realms of human life: the symbolic, the individual and the political. Given the acute political and social dilemmas that instrumental understandings of education bring forth in multicultural, and so called 'democratic' and 'inclusive' societies, we hope that by opening the possibility to theorise education as a non-instrumental phenomenon, it may become possible to have more fruitful discussion regarding education than endless political debate about what the curricular ends of education should be.

Introduction

The idea and practice of education, tied as it is to socio-historical moments shaped by a wider history, has in our time, fallen into a form of disrepair, or perhaps one could even say despair. We believe it has literally 'fallen apart' in that there is no longer any consensus as to what education actually is or which normative role it should serve. Education, in other words, is no longer a coherent entity or practice, but has been largely reduced to being an instrument for external aims and purposes. This form of dis(re)pair is not, therefore, due to abandonment or inattention (although it could be argued that the concept of education has been abandoned in favour of concepts such as teaching, learning and curriculum). Indeed, the practices and purposes

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of 'education' (actually teaching, learning and curriculum) continue to receive a very great deal of attention from many quarters. On the one hand education has received significant attention from those who seek to narrow its focus towards the production of a particular set of measurable learning outcomes.' On the other hand education has received significant attention from those who seek to broaden its focus, for example by seeing education as a basic human right, as can, for example, be seen in UNESCO's positioning of education at the heart of its mission to 'build peace, eradicate poverty and drive sustainable development' (UNESCO[1]). We would argue that education's current dis(re)pair has been brought about by the wrong kind of attention: attention focused on what education *should do* (its instrumental purpose) without regard for what education, itself, actually *is* (as a kind of entity or being in its own right).

While there is certainly merit in attempting to understand education in terms of its purpose, this pursuit has become deeply problematic in contemporary times as it is unable to do justice to the complexity of human togetherness under conditions of globalization, multiculturalism and differential states of technologisation or 'development'. In societies that are faced with many heterogeneous ethical issues, education has therefore been shown to have spectacularly failed to redress social and cultural inequality (Apple, 2004; Giroux 1983, 2005); to have become a normative tool for social cultural reproduction (Bourdieu & Passeron, 1977); and to be stifling and toxic to millions who are positioned as being in deficit in relation to dominant norms (Andreotti & de Souza, 2008; Battiste, 2004).

Moreover, as Biesta (2009) has argued, while controversy concerning the purposes of education has opened a political space for a variety of understandings of education to be explored, this has done little to transform the dominant discourses of education. He suggests that the move has instead contributed to the dominant discourses of education turning away from questions about educational purpose(s) themselves (what they should be) and focusing largely on questions about how to effectively accomplish particular educational outcomes. This latter focus, so Biesta argues, is problematic in that it allows discussions about effectiveness to dominate the educational scene, which means 'we end up valuing what is measured, rather than … engage[-ing] in measurement of what we value' (Biesta, 2009, p. 43). For this reason Biesta argues that it is important to keep open a political space in which the purposes of education can be continuously be renegotiated.

In this paper we make the point that keeping open a political space in which educational purpose can be debated does not mean that the question of educational purpose is necessarily a socio-political question. We argue that there is also a structural question concerned with how we understand education's directional impetus. This has much to do with whether we understand education as an instrument that is designed to facilitate an external, *priori* or 'ready-made' socio-political (normative) purpose, or whether it is possible to also understand education as an emergent entity that does not simply serve a purpose, but also brings with it the purpose it serves. Importantly, if education is not understood in an instrumental sense, as being in the service of some external and 'ready-made' socio-political end, a question arises as to how its meaning and value might therefore be understood. To address this question we start with the assumption that education 'comes into being,' as an entity in its own right. For us, this implies that education has its own unique aesthetic qualities, like art or music, which have the power to elicit emotion and are thus affective (see Turner, 2019, for a fuller discussion on the 'aesthetic' nature of education). The abovementioned assumption relies heavily on the concept of emergence, which challenges many aspects of mechanistic thinking. To make this argument, a brief delineation of some differences between emergent and mechanistic entities and processes is necessary.

Emergence versus mechanism

The concept of emergence is complex and has a long history and we cannot explore its various origins, elaborations and internal conflicts here (see Osberg 2015, for an overview; Osberg & Biesta, 2008). For the purposes of this particular argument, we draw on a line of thinking in which emergence can be conceptualised as a 'coherence principle' (Scott, 2003) that brings into being a novel, 'higher-level' entity from the active coordination of diverse 'lower-level' entities that do not individually 'need' such coherence to come into being. An often-used example is to be found in the coordinated swooping and wheeling patterns that are brought forth by the flocking of starlings. This kind of coordinated flight behaviour is an aesthetic phenomenon with no purpose other than itself. It is, in other words, not set up to serve an external goal.

The flight behaviour is internally generated by the flock itself, and emerges spontaneously, as does an unchoreographed dance or the product of collective improvisation by musicians. It happens when the actions of the individual birds, dancers or musicians (the lower-level entities, which have their own diverse purposes) become coordinated in a way that produces a coherent 'higher-level' entity in its own right (*the* swooping flock, *the* dance, *the* music). Such an entity can be understood as having a 'life of its own' which is distinct from the 'life' of the entities that cohered to produce it. Moreover, it appears as an entity that invites others to engage, in their own way, with the unique qualities of its being. For example, if music serves a purpose in the lives of others, this is not because it has been designed *to* serve the purposes of others, but because others find meaning and value in the unique aesthetic qualities of 'music': meaning and value that somehow coheres with their own purposes.

Since the meaning and value of an emergent entity becomes evident only when (not before) it manifests, it follows that an emergent entity does not simply 'serve a purpose' but also brings with it the purpose it serves. Its design and purpose (or value) emerge together. Such entities, that 'come into being' in this way, cannot be understood in instrumental terms. That is, they cannot be understood through reductionist or functionalist analyses. The structure and purpose of an emergent entity are inseparable – they manifest in the entity's *affective* aesthetic qualities – and hence an emergent entity is irreducible.

While a machine does have some superficial similarities with emergent entities – for example a clock is made up of parts that interact in a coordinated fashion – there is an important difference. The coordinated interaction of a machine's parts serves an *priori* purpose (its designated function), and any ability the clock may have to aesthetically affect others is additional (and some may say irrelevant) to its purpose. The machine, in other words, is a slave: it exists only to fulfill the purposes of its designer/master. An emergent entity, on the other hand, has no such 'natural' bondage.

It is with this in mind that we wish to challenge the mechanistic assumption that education can only be understood in a functional sense, as a passive instrument that exists primarily to fulfill the purpose(s) of its designer. We believe education can, and should, also be appreciated in an emergentist and affective sense: as something that manifests unique aesthetic qualities. While we draw on the notion of emergence to challenge the dominant instrumental view of education, this is not simply because we believe emergence offers us the conceptual tools to rethink several key aspects of the educational process as it is currently conceived. Instead we use the notion of emergence to present a different way of theorizing education altogether. In this regard, we follow Cassirer's (1944) thinking, that theories are affective entities within reality rather than passive representations of reality. That is, theories are entities that can be said to have 'a life of their own' rather than entities that are permanently in bondage to a reality that it is their job to passively represent. This form of theory making – which we refer to as 'emergent theory making' – is central to the argument we try to make.[2]

Emergent theory making

It is well known that in some respects the products of theorising can be conceptualised in affective terms, with the 'best' theories often being described as 'elegant' or 'beautiful' by their creators and others who appreciate their aesthetic qualities. When this aesthetic is analysed (see McAllister, 1996) it appears to be a product of two intertwined features: (i) the intrinsic consistency or congruity of the logic of the theory and (ii) its power to achieve a 'higher' order of truth than other theories. In some ways, this 'theoretical' aesthetic (the aesthetic affect a theory has on a person) can be related to the abstract concept of symmetry, as articulated in a branch of mathematics that goes by the name of 'group theory'. We elaborate briefly on this conceptualisation of symmetry, as it opens the possibility to think about theory in affective rather than representational or pragmatic terms.

In group theory, 'symmetry' refers to abstract structures (laws and principles) that are common to, and hence which unify diverse members of any particular group. For example, while scalene, isosceles and equilateral triangles are a group of measurable shapes that materially differ from each other, they also conform to certain abstract principles common to all triangular shapes (e.g. the sum of two sides of a triangle is always greater than the length of the third side). Mathematical forms, such as triangles, lines, planes, fields, rings and vector spaces, are all conceptualised as groups endowed with abstract intrinsic operations and axioms (or 'laws') that are invariant for the group. These invariant laws reflect the 'symmetry' of the members of the group. Hence the mathematical formulation of symmetry, 'invariance under a wide range of transformations' (Roche, 1983, p.4), can be thought of as an irreducible, symbolic (or 'abstract') principle by means of which an invariant can be 'objectivised' as a truth. In this way mathematics is usually conceived to be a form of representation that reflects the 'deeper' aspects of reality, i.e. it reflects reality as it 'really' is rather than only how it 'appears' to be.

However, as Cassirer (1944) makes clear – and here it becomes possible to reconceive the purpose of theory in an affective sense – the mathematical 'invariant' that is 'objectivised' in this manner does not point to some *priori* or 'ready-made' form (Cassirer, 1944, p. 2). It is an abstraction that can be obtained only from active experimentation with the *priori*. The abstract mathematical principle common to all triangular shapes does not, in other words, represent any particular triangle. Rather, it brings into being a new object (albeit an abstract one). In this regard, Cassirer is firm about *not* supporting 'the assumption that the 'thing character' of reality is itself objectively given'. In his major work, *The Philosophy of Symbolic Forms*[3] he holds that, in relation to language, the identification or 'objectivisation' of an abstract invariant

'has as yet nothing to do with attributing an entirely independent reality to the content – it is concerned solely with fixing the content for knowledge and characterising it for consciousness as something identical with itself and recurrent amid the flux of impressions.' (1955, Vol. 1, *Language*, p.281, our emphasis)

In relation to mythic thought he holds that the abstract invariant that is 'fixed' in this way

'is not a signification but rather a substantial being and power of its own. It does not point to an objective content but sets itself in the place of this content; it becomes a kind of *Ur-sache* ['cause' or, literally, 'original thing' – tr], a power which intervenes in empirical events and their causal concatenation.' (1955, Vol 2, *Mythical Thought*, p. 237)

Finally, in relation to knowledge, he holds that the *category* of 'thingness' obtained through active experimentation with the *priori*

'… exemplifies a particular *phase* in the view of things, and is an outgrowth of what came before. The thing is not the final condition of all knowledge … it is a *mode* of having or conceptualising a world, not the presupposition or *foundation* of our understanding a world.' (1996, Vol 4, *The Metaphysics of Symbolic Forms,* p. 212, original emphasis).

Cassirer shows, in multiple ways, that the 'thing-like' quality (symmetry) of an abstract invariant, should not be conceived as merely serving the purpose of passively representing an already

present 'thing-like' reality because it actively generates 'thingness' through the process of abstraction/codification. With Cassirer's generative formulation, any 'thingness' that the mathematical concept of symmetry brings forth, is therefore not a closed thingness in which A represents A. It is an emergent thingness: an affective entity, with a 'life of its own'. To say this differently, it can be considered to be a phenomenon in its own right: one with affective qualities of its own, rather than simply a conceptual or abstract object that represents something else. In this sense, the 'thingness' of an abstraction has similarities with the 'thingness' of a living entity.[4]

We have highlighted Cassirer's focus on symbolic forms – their coming into being or 'materialisation' as things with their own unique affective properties – as this enables us to define precisely what we mean by 'emergent theory making'. For the purposes of this argument, we now define emergent theory making as *mode* of theorizing that brings forth affective rather than purely functional entities. Such entities do not merely serve a pre-given purpose, but offer unique opportunities for engagement and hence bring with them any purpose(s) they may come to serve. That said, we now turn to the question of why it is necessary to theorise education as an emergent and affective entity, rather than a passive instrument that is there to serve a pre-existing function. We do this through a discussion regarding the role of the curriculum in current educational discourse.

Education and the curriculum

In contemporary discourse, 'education' is generally understood to name a particular kind of functional event: one that demands structured teaching and learning of the 'right' things (and not the wrong things) to achieve pre-determined, normative ends. This is done via the curriculum understood as the way in which educational events are structured. Indeed, the structured or *curricular* teaching and learning of the 'right' things can, in many ways, be understood as education's broadest purpose or goal (see Burbules, 2004). That is, education can be said to have this curricular structure regardless of *which specific* 'right things' it is aiming for, and regardless of whether its curricular focus is 'strongly' or 'weakly' teleological, or justified in 'transcendent' or 'socio-cultural' terms (ibid).

Because the curriculum is essential in bringing about the specific educational good that is to be achieved, *whatever that may be*, the term 'curriculum' is generally implied wherever the term 'education' appears. Indeed many, if not most, educational questions are framed as curricular questions (see, e.g. Pinar et al., 1995), with the dominant discourses of education being concerned with *what* the 'right' things are to be taught and learned, *who* decides this, and *how* such teaching and learning can be effected. However, within dominant framings of education, there are also arguments that education is not simply *any* form of curricular teaching and learning (see. e.g., Osberg & Biesta, 2008). For example, liberal educators might argue (contentiously) that education enables people to think for themselves and achieve a level of critical autonomy which implies (liberal) education can in principle be distinguished from other forms of 'training' (e.g. military or vocational training).

Nevertheless, despite ongoing debate about the alleged differences between 'education' and 'training' it cannot be denied that both use *curricular mechanisms* to effect some form of enculturation into pre-defined ways of being (military, elite, vocational, professional, and so on). This does not imply, however, that education is fully synonymous with enculturation (Osberg & Biesta, 2008). It has been argued, from a sociological perspective, that education should rather be understood as *a system* of enculturing practices that is *ideological* in nature because it is shaped by, and in the interests of, the dominant classes (Bourdieu & Passeron 1977). Important as this sociological insight has become, it does not in any way free education from its primarily curricular framing. Hence in contemporary discourse, there is little opportunity to theorise

TEACHING + LEARNING + CURRICULUM = **EDUCATION**

Curricular instrument
EDUCATION

Normative
product

Figure 1. Education as curriculum.

education as anything other than an instrument designed to achieve a predetermined socio-political product with the term 'education' being used to refer *both* to the educational mechanism (curricular instrument) *and* to the educational product, as shown in Figure 1. From this discussion, it should be clear that (i) the term 'curriculum' can very easily be conflated with the term 'education' and (ii) it is the curriculum (understood as the intentional form and content of the teaching and learning) that is responsible for education's ideological impetus.

Importantly, once (the concept of) education becomes identified with (the concept of) curriculum there is very little scope to understand education as anything other than a normative tool for social and cultural reproduction (Bourdieu & Passeron, 1977). In contemporary multicultural and globalized societies, this charge has contributed to a lack of consensus as to what education actually is or which normative role education should serve. In this regard we would suggest that the term 'education' currently has no coherent identity or meaning.[5] As a concept, it has neither intrinsic consistency or congruity nor the power to achieve a 'higher' order of truth than its 'lower level' parts (teaching, learning and curriculum). Indeed, it is currently more conceptually accurate to refer directly to various externally instituted curricular purposes (socio-political ends), and to the mechanics of the teaching and learning processes that facilitate such outcomes, than to their combined action ('education'). Hence it might be argued that education has 'fallen apart' or 'fallen into its parts.' In which case, there is no possibility for education's expression as an affective emergent entity with its own unique qualities: it exists simply to serve externally instituted purposes.

We would argue, however, that education's current lack of coherence is no cause for giving up on the concept. This lack might be understood, rather, as a sign that education might be rethought in a more elegant fashion. It is to this task that we now turn. In what follows we attempt to theorise education in a way that frees it from its bondage to instrumental (curricular) ends and reveals it as an end in itself, with its own unique aesthetic qualities[6]. In this regard, we attempt to articulate a non-instrumental and emergentist theory of education: one based on the mathematical notion of symmetry as an invariant *that generates 'thingness'.*

To theorise education in an emergentist mode, it is necessary to theorise it as an entity – an affective thing, in Cassirer's sense – that arises through the internally coordinated interactions of 'lower-level' entities *that individually do not require such coordination in order to come into being.* Our hypothesis is that the coordination of such entities generates the phenomenon of education as an affective entity with its own aesthetic qualities and that without such co-ordination education, as an end-in-itself, simply cannot appear. We hypothesise, further, that 'lower-level' contenders for such coordination can be found in three 'realms' of human life that have long been recognised as objective (albeit intertwined) fields of scholarly enquiry. The realms in question are (i) the symbolic realm (or the realm of knowledge), (ii) the individual realm (or the realm of self-hood) and (iii) the political realm (or the realm of the common world we share).

The notion of education as an entity constituted by the coordinated interaction of the above-mentioned realms of human life is not arbitrary. It has some roots in the tradition of paideia which Jaeger (1944) describes as being central to ancient Greek culture. While in this article we ultimately conceptualise education beyond paideia – and in particular beyond the idea of paideia as it has been taken up in contemporary theories of Bildung that actively promote education as a form of social and cultural reproduction (see Biesta 2018) – we argue that (some of) the understandings that generated the idea of paideia provide a ground from which it becomes

possible to theorise modern education as an affective end-in-itself: one that emerges from the coordinated interaction of the abovementioned realms of human life. The 'ground' we refer to concerns the notion of the 'ideal'.

Paideia and the ideal

Jaeger (1944) introduces the concept of paideia as a form of education which was not merely about perpetuating a pre-existing cultural standard (which can be equated with the training of the young in the ways of the old), but about the deliberate pursuit of an improved or 'ideal' form of humanity. We would like to be clear, however, that while the concept of the ideal signified the best or highest form of good, the pursuit of this ideal, within ancient Greek culture was not understood as an *externally instituted* goal, but as an internally generated or *immanent* limit signifying completion or perfection (*teleios*) as in Aristotle's teleological philosophy.[7] For Aristotle (2009, iv), this limit is an internally generated standard that delineates a state or function that is unique to the *category* of beings to which it belongs. This is its 'native excellence', i.e. the cause of its being and its ultimate purpose. The idea that a pre-existing category of beings (such as 'humanity') may have a 'native excellence' or 'ideal' towards which education can aim, seems concrete enough. However, it becomes evident that it is an ideal that demands aiming in several different directions at the same time or, to put it more precisely, it demands the *active coordination of these different aims*. The complexity of the notion of native human excellence is partly related to the way in which Aristotle delineates 'excellence' (ἀρετή in Greek, often translated as 'virtue' in Latin) as dependent on an immanent scale which he also considers to be a 'rational principle'.

Because he argues that the only activity unique to humans is 'activity in accordance with reason', Aristotle's rational principle must itself be subject to this rational principle (immanent scale) in order to delineate native human (rational) excellence. This leads Aristotle to formulate a complicated hierarchical system of rationalities (e.g. scientific, intuitive, deliberative, calculative, and so on) which nevertheless cannot reach their own ideal states of excellence or 'native virtue' without each other's help. For example, *philosophic wisdom* – which, for Aristotle represents the ideal state of scientific rationality ('episteme') and is the most superior form of wisdom – cannot be achieved without the help of an ideal in the deliberative category of rationality, which he terms *practical wisdom* ('phronesis'). Moreover, some ideals (e.g. philosophic wisdom) cannot come into being in the absence of ideal (political) forms of togetherness such as those brought forth by the city-state, which is itself dependent on forms of 'right rule' governed by practical wisdom.

From this necessarily brief elaboration of the complexities of pursuing 'native human excellence' we hope to have made it clear that paideia's aspiration to deliver an improved or 'ideal' form of humanity should not be simplistically understood as pointing to a unified target. A more rigorous articulation would be to conceptualise paideia's aspiration as an amalgamation of aims pointing in different directions. In aiming towards 'philosophic wisdom,' which represents that which is best *in* man, one must strive towards (knowledge of) the past and all things eternal and unchanging. But to achieve this, one must also aim towards 'practical wisdom,' which is concerned with what is best *for* man(kind): hence one must strive towards an ideal of care for the future that operates simultaneously (and inseparably) at both the individual and political level (care of the self as part of a greater whole which must be cared for *as a whole*).[8] Therefore, if paideia can be said to have had '*an*' aim, this can be read as a non-linear aim that sought coherence between ideals in the symbolic, individual and political realm. Whether paideia actually aimed for such coherence is largely immaterial. What is important is that it was a theory of education that took cognisance of all three realms. In this sense the concept of paideia can be understood to have objectivised (or made a thing of) the *possibility* of coherence between
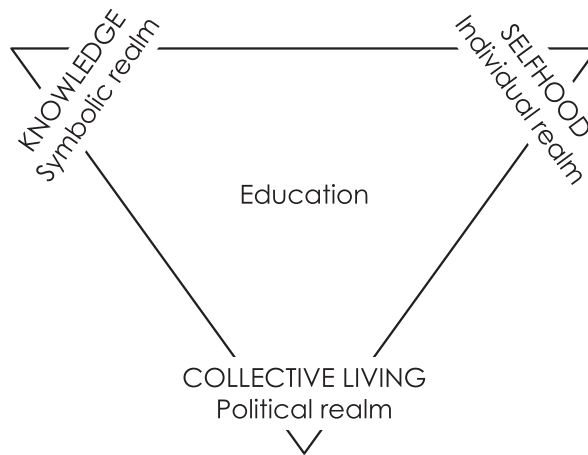
Figure 2. Education as an immanent entity (a higher-level phenomenon emerging from a triad of lower-level constituents).

the symbolic, individual and political realms and it is in this regard – so we will argue – that the idea of paideia opens the possibility for a non-instrumental (affective, emergent) theory of education. Education, in the non-instrumental sense we present, is an immanent phenomenon that emerges only when the symbolic, individual and political realms of human life *are actively coordinated from within* (see Figure 2). In the absence of such immanent coordination, we would argue that education, as an *emergent* phenomenon, simply cannot appear.

The educational triad in modern education

In many ways, paeideia's aspiration to deliver an ideal form of humanity is reflected in the normative impetus towards ideal forms of human life that underpins modern education's ideological nature. This is largely owing to the advent of the European Enlightenment, when the idea of an ideal form of humanity regained purchase in the West. The ancient Greek idea that an ideal form of humanity necessitated work in the symbolic, individual and political realms of human life, provided post-Enlightenment educators with a ready-made foundation upon which to build modern notions of education. The fact that modern education is substantially different from the educational practices of Ancient Greece (and continues to change) can partly be attributed to changes in the scientific and philosophical base that we use to interpret ideals in the symbolic, individual and political realms.

In early elitist forms of modern education (e.g. as expounded by liberal educators such as von Humboldt and Newman and from which, arguably, later variants of modern education have grown), ideals in the three realms of human life were understood in strictly 'objective' terms such that:

- *Within the symbolic realm*, ideal knowledge was that which was a universally true and timeless representation of reality (and which could therefore be transmitted intact to others),
- *Within the individual realm*, the ideal self a self-contained psyche that possessed rational autonomy (a state which could be achieved only through the acquisition of 'ideal' knowledge) and
- *Within the political realm*, the ideal was an objectively achievable state of liberty – a 'culture' that is structured around autonomy and reason(a state which only those who have reached the prescribed state of selfhood could 'naturally' follow).

IDEAL KNOWLEDGE ⇨ IDEAL SELFHOOD ⇨ IDEAL SOCIETY
(objective & universal)   (rationally autonomous)   (liberal democracy)

Figure 3. Liberal education as a linear mechanism for social and cultural reproduction.

This interpretation of the three realms of human life has meant that early forms of liberal education can be understood as the perpetuation of ideal forms of knowledge (e.g. universal truth), selfhood (e.g. rational autonomy) and culture (e.g. liberal political order) through well intentioned manipulations of the student's psyche by the teacher or curriculum (which presents and/or represents the ideal knowledge that must be acquired) to achieve the desired psycho-social and/or socio-political end (liberal rationalism/humanism). In this liberal conceptualisation, education might still be conceived as a higher-level phenomenon comprising a triad of lower-level constituents that are interdependent and mutually supporting as shown in Figure 2. Hence modern liberal education might be understood as a coherent (and some might even say 'elegant') theory of education: one which has a clear purpose and identity.

Nevertheless, closer scrutiny reveals a hierarchical rather than emergentist relationship between liberal education's three lower-level constituents. Because a particular kind of knowledge is required to produce particular kinds of selves which collectively produce a particular kind of socio-political order, a hierarchy is established in which the individual and political realms of human life are subservient to the symbolic realm. In this regard, liberal education should rather be understood as a linear mechanism for social and cultural reproduction (see Figure 3): it is a closed system that serves pre-existing normative ideals.[9] An emergentist theory of education, so we would argue, requires more than simply *any form* of coordination of the symbolic, individual and political realms of human life. *It requires an immanent form of coordination that is non-hierarchical in nature*. That is, the lower-level elements of the educational triad must have a mutually supporting or egalitarian relationship. Modern liberal education which, like paeideia, relies strongly on ideals in the symbolic, individual and political realms of human life, must therefore be ruled out as a contender for an emergentist theory of education.

In the last century, further shifts in the scientific and philosophical base that we use to interpret the symbolic, individual and political realms of human life have further altered the way in which education can be understood and practiced. For example, the coherence of modern liberal education (as an instrument that delivers freedom in the broadest sense of the word) has been strongly challenged as theories of knowledge have shifted (in varying degrees) to an emergentist mode (see, e.g., Bateson, 1972; Dewey, 1906; Fuller, 2002; Latour & Woolgar, 1986; von Glasersveld, 1995, amongst others). Since these shifts have put into question the assumption that universal truth can be used as a criterion for judging between knowledges, important political questions can now be raised about why certain knowledges should be legitimated in and through educational curricula while others should not.

In multicultural and differentially technologized societies, this epistemological development positions educational goals/norms as a means of perpetuating power inequalities, rather than alleviating them. Indeed the loss of universal truth in contemporary epistemological debate is precisely what underpins Bourdieu and Passeron's (1977) understanding of education as a tool for social and cultural reproduction. However, we would argue that in Bourdieu and Passeron's sociological understanding of education, only *one* element of the educational triad is theorised in emergentist terms – the one concerned with knowledge and meaning – and that it is the lack of emergentist theorising in the other two realms that produces a conception of education that is incoherent. To be coherent, an emergentist (and non-instrumental) theory of education requires emergentist thinking applied to all three realms of human life.

We argue, furthermore, that the condition of possibility for a coherent emergentist (non-instrumental, non-linear and immanent) theory of education *already exists* owing to the

development of emergentist forms of theorising that apply to *all three* lower-level constituents of the educational triad. Alongside emergentist theories of knowledge, there also exist emergentist theories of selfhood and political life. For example, against notions of the self as a rationally autonomous whole, lacking barriers to its action that are in any way external to its will, some authors now understand selfhood to emerge in response to that which is 'not-self' (e.g. Arendt, 1958; Butler, 1990; Levinas, 1981, and others) and therefore as something that continually 'comes into presence' (Biesta 2006) as we encounter the address of what and who is other.

Furthermore, ideal forms of collective living (political realm) can no longer be defined by a pre-given set of rules for living together (and therefore as a political order that can be mutually agreed upon and straightforwardly 'implemented' and 'achieved') by autonomous, rational selves, but as something that must constantly be reworked and which therefore continually 'takes place' as we act and interact with what and who is other, and in the presence of disagreement rather than consensus (e.g. Agamben, 1993; Badiou, 2005; Derrida, 1994; Dewey, 1939; Laclau & Mouffe, 1985; Rancìére, 2010; Young, 1990, and others). Within these perspectives, the individual and the political are imbued with an open-endedness that is quite foreign to objectivist understandings of these phenomena.

Nevertheless, despite this condition of possibility for a coherent emergentist theory of education, the idea of education as a (linear) curricular instrument has proved to be remarkably resilient. While emergentist insights relating to all three components of the educational triad have produced many new educational visions, we would argue that, with few exceptions (e.g. Biesta, 2014; Osberg & Biesta, 2008), these visions have been structured primarily around the idea that education can be properly understood only as a curricular instrument that should serve pre-existing (normative) functions. This has meant that regardless of the extent of emergentist theorising of all three constituents of the educational triad, the focus of attention has come to rest primarily on the normative implications of curricular content and structure. Hence a linear hierarchy is again put in place between the constituents of the educational triad (as we described earlier, for liberal education) and education again becomes curricular and instrumental.

Conclusion

In this paper we have argued that a non-instrumental (or emergentist) theory of education requires emergentist thinking at several levels. First, it requires engagement with the notion that a 'theory' is not simply an instrument for understanding something else. Following Cassirer, we may think of theories also as affective emergent entities in their own right: entities which have their own aesthetic qualities, like art or music (or a flock of starlings). Education, as an affective theory-phenomenon, only 'comes into being' through the actively coordinated assembly of 'its' lower-level parts: parts that (individually) did not need to cohere in order to come into being. Second, it requires an engagement with the idea that (the affective theory-phenomenon of) education is not simply the (linear) product of teaching and learning a curriculum. It can also be conceived in non-emergentist terms as a *non-linear* product of lower-level constituents that (individually) did not need to cohere in order to come into being. The lower-level constituents in question being the symbolic, the individual and the political realms of human life. Third, it requires that the lower-level constituents of the educational entity remain separate from each other in a non-hierarchical (and non-linear) relationship. As soon as one member dominates, a hierarchy is introduced which instrumentalises education. Fourth, it requires that all the lower-level constituents of the educational entity are theorised in emergentist terms. If only one or two are theorised in such terms, the theory-phenomenon of education is incoherent. With the above conditions in place it becomes possible to think of education as an affective entity, in its own right, that is, an entity that does not serve a pre-existing purpose, but brings with it the purpose it serves.

We believe the argument we have presented adds to current thinking about education as an end in itself by developing a foundation for understanding education as a coherent, affective entity in its own right: one which does not serve a pre-existing (external) purpose, but which self-generates the purpose it serves. We would argue, furthermore, that this conception of education can be understood as an open-ended form of 'care for the future' which Osberg has elsewhere described as 'educational democracy' (2010) or 'symbiotic anticipation' (2017). For Osberg, this form of care for the future is concerned *not* with a 'good' future *that is already decided in advance*, which, so it could be argued, it has been the task of education to achieve. Rather, it is a mode of engagement with an as yet un-manifest future. After Derrida, we might refer to this as-yet-un-manifest future as an impossible future, that is, a future that as yet cannot be *foreseen* as a possibility (Derrida 1992, p.16). Education, then, is exactly about addressing this impossibility, and insisting on the impossible (Biesta 2015, 2017). Although we cannot know in advance what 'good' such engagement will bring about, we can be certain we shall achieve it only if we engage with education as an aesthetic object.

Given the acute political and social dilemmas that normative and instrumental understandings of education bring forth in multicultural, and so called 'democratic' and 'inclusive' societies, we hope that by providing a foundation from which to theorise education as a non-instrumental event (one that has a direction that is not implemented from the outside), it may become possible to open a new and more fruitful platform for educational discussion than endless political debate about what the instrumental ends of education should be. We hope that the groundwork we have presented in this paper provides a meaningful startingpoint for moving beyond such political debate which, by the way, takes place both 'outside' and 'within' educational policy, research and practice.

Notes

1. https://en.unesco.org/themes/education last accessed 25 March 2020
2. Cassirer's ideas raise important epistemological and ontological questions and, moreover, important questions about the relationship between epistemology and ontology. In the next section we touch upon these aspects. A full discussion of this lies beyond the scope of this paper.
3. Published in 4 volumes (one posthumously) between 1955 and 1996.
4. While Cassirer's (1944) emergentist thinking presents an early radical challenge to representational epistemology, his ideas can be contextualised amidst a much broader collection of earlier and later challenges to mechanistic causal continuity by authors such as Bergson (1911), Mead (1932), Prigogine and Stengers (1984), Deleuze (1991, 2005) and others. Such challenges have directed attention to the non-mechanical 'liveliness' of causal continuity and more recently such thinking has been aligned with socio-material (Latour, Stengers) and new-materialist (Coole & Frost, 2010; Dolphijn & van der Tuin, 2012; Conolly, 2013) approaches.
5. An additional problem is that the word 'education' is rather one-dimensional, whereas other languages have a number of different concepts to discuss educational matters – see, for example, in German the difference between 'Bildung' and 'Erziehung' (Biesta 2011; in press).
6. Importantly, this is not an argument for allowing education to have any end. Hence education's ends cannot be hijacked by individual stakeholders.
7. We have drawn largely on Johnson's interpretation of Aristotle's teleological philosophy (Johnson, 2005).
8. Importantly, this reference to 'care for the future' is *not* commensurable with the feminist 'ethics of care' (e.g. Gilligan, 1982; Held, 2006; Noddings, 1986; Tronto 1993; 1996) which can be shown, without exception, to invoke an ends-driven understanding of action that requires knowing in advance what is required to act in an ethical manner. Such care is underpinned by an instrumental logic that relies absolutely on the idea of rationally informed choice, this being a specific target of critique in political theory. Against this understanding of care, Osberg (2010, 2017) has argued that an ideal of care for the future that operates simultaneously (and inseparably) at both the individual and political level can be aligned with a specifically *educational* responsibility: one that is unique to education *itself*, rather than being in the service of some pre-existing normative end.
9. To a large extent this mechanistic, liberal understanding of education is still very dominant in modern conceptions of education. Hence the assumption that 'real' education (as opposed to vocational education, for example, which is deemed to be 'utilitarian') is very much connected the goal of rational autonomy, freedom and emancipation. For this reason, Usher and Edwards (1994) have described modern education as the 'dutiful child' of the Enlightenment.

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Disclosure statement

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Deborah Osberg initially followed a 20 year career in Zoology before educational inequities in apartheid and post-apartheid South Africa drove her to switch her academic trajectory to seek answers to issues of power, control and justice in society. For the next two decades, and inspired by the work of Gert Biesta, she engaged intensely with educational theory using ideas from ecology, complexity theory and poststructural philosophy to rethink the colonising role of education. She has since turned her back on academic life owing to the stultifying constraints of its ever increasing managerialism and is currently living on a farm in Portugal which enables her to pursue issues of power, control and justice on an ecological scale through the emerging practices of regenerative agriculture.

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