From the 'General' to the 'Organic' Intellect: reflections on the concepts of specialization and the curriculum of the future

Ken Spours, 2016

This chapter engages with Michael's work on 'specialisation' and different 'futures' of education by applying perspectives, not from within sociology but from without through the theoretical legacies of the Italian Marxist, Antonio Gramsci. Dimensions of his political theory - hegemony, common sense/good sense and the role of intellectuals - are reworked in the conditions of the 21st Century to create the concept of the 'organic intellect'. This multi-dimensional framework, comprising 'connective specialisation' and 'ethico-political consciousness', is used to reflect on Michael's approach to the 'curriculum of the future' – known in his later work as Futures 3. From the perspective of the Organic Intellect, the latter part of the chapter outlines six challenges to encourage Michael to move beyond some of the constraints of his later work. In particular, I argue that Michael's current focus on the role of subject specialization could be enriched by revisiting his earlier concept of connective specialization that has new meaning due to the tensions between the 'verticalities' of neoliberal economic and political life and the 'horizonalities' of emergent radical civil society. The chapter concludes by suggesting that the six challenges constitute an invitation to Michael to move from deep within sociology towards its boundaries and to engage with the world of modern political economy; a shift that could open up his fourth intellectual period.

Introduction

A central concern of Michael over the recent period has been the production and function of forms of knowledge where he accords particular importance to the processes of specialization and role of universities and schools in the production and mediation of specialist knowledge in defining the purposes of education. While Michael's perspective on specialization is rooted in the sociological tradition, and particularly Durkheim's division of labour and Bernstein's classifications of knowledge, his curriculum work occasionally references Antonio Gramsci's writings and the world of political economy, although these have not functioned as a fundamental organizing influence.

This chapter brings the work of the renowned Italian Marxist centre-stage and into the 21st Century in order to discuss the strengths and limitation of two versions of the 'general intellect' - classical Marxist Techno-Economic and Liberal Rationalist. Interpreting Gramsci's theory of politics, and drawing on his key concepts of hegemony, historical bloc, common sense/good sense and the role of organic intellectuals in the conditions of 'New Times' [1], the chapter proceeds to articulate a third version - the 'Organic Intellect'.

This multi-dimensional concept is used to reflect on Michael's approach to specialization and the curriculum of the future – known in his later work as Futures 3 – in support of the argument that earlier aspects of his work on 'connective specialization' (Young, 1993, 1998) may hold as much promise as his recent theories of the role of knowledge in education. The chapter concludes by suggesting Michael considers six conceptual movements related to his most recent work on knowledge that might take his work from a defence of the disciplines to the development of the 'necessary verticalities' in order to engage with the 'new radical horizontalities' [2]. These progressions could constitute yet another phase of Michael's work, a prospective 'Fourth Period', to be creatively applied not only to secondary education, but also to professional and political life more broadly.

Two models of the general intellect

The concept of the 'general intellect' has been defined as shared social knowledge and collective intelligence or consciousness at any historical period (Dyer-Witheford, 1999). However, the term is not well understood nor easily utilised in the current political and educational discourse due to its fractured condition – a split between a Marxist determinist interpretation closely tied to the historical development of economic modes of production and technologies (Version 1) and an idealized 'liberal-democratic' intellect that is rationalist, but confined to general education and divorced from the world of production (Version 2).

Version 1. The general intellect as techno-economic socialized knowledge

The term 'general intellect' originates with Marx's thought piece *The Fragment on Machines* in which he speculates about the relationship between the worker and the 'self-acting' machine in a future world in which the main human input would be organization and knowledge invested in the machine (Marx, 1973 translation). This lesser known part of Marx's work (written in 1858) has resurfaced because of the evolution of a new phase of capitalism – termed cognitive capitalism (Moulier Boutang, 2007) - and the emergence of digital and knowledge-based technologies that Marx could not have envisaged 150 years ago.

The techno-economic argument broadly goes as follows in relation to the conditions of the 21st Century. In a world in which production is led by technologies that are created and maintained by human knowledge, the nature of the knowledge locked inside the machine is increasingly social since it comes from the head of the worker and can be shared. Moreover, in such a system of production, where employers are compelled to develop the intellectual capacities of the worker, all this information will be stored and shared in the 'the general intellect' in which the activity of the workforce is 'the activity of production of knowledge by the means of production' (Drucker cited in Mason, 2015). Moreover, in a world in which machines produce everything, we will have freedom from work that will also provide the freedom to think and imagine (Srnicek and Williams, 2015).

The main problem facing the original Marxist version of the general intellect has been the

determinist interpretation by, for example, the Autonomist Left (e.g. Lazzarato, 1996; Hardt and Negri, 2004; Virno, 2007). This manifests itself around two expectations that relegate the mediating role of politics and culture. First, is the optimistic expectation about the inevitable development of the techno-economic general intellect as shared social knowledge embedded in the machine. This ignores the processes of 'passive revolution' in which the organic intellectuals of the dominant bloc will always try to absorb and rearticulate the radical ideas emerging from technological change [3]. The second is an opposite, the pessimistic expectation about the homogenizing, alienating and immiseration effects of neoliberal Post-Fordism to automatically produce the 'mass intellectuality' and ultimately insurrection by the post-modern mass proletariat known as the 'Multitude'. Mass intellectuality in the context of this model can be understood as a form of ignorance, false consciousness and cynicism that through capitalist crisis, rapidly gives way to a 'public intellectuality' and a questioning revolutionary attitude developed outside that of the dominant sphere of production and the State (referred to as the Administration). This conception of change, however, misreads the complexities of an expanded modern state and civil society that requires an explicit political articulation of injustice and oppression in the context of political and ideological contestation (Errejon and Mouffe, 2015).

Despite the problems of its determinist interpretation, the techno-economic version has strongly progressive functions in the economic and technological conditions of the 21st Century. It captures the idea of embedded social knowledge in new digital processes – a point powerfully made by Mason in his work on a post-capitalist future (2015) and the opportunities this allows for inter-professional dialogue and connectiveness (see Guile in this volume). It also constantly reminds us of the growing internal economic and technological contradictions of neoliberalism that are fermenting new sites of popular horizontal struggle, referred to elsewhere as 'radical civil society' (Spours, 2016). The techno-economic version of the general intellect also forms part of a wider intellectual effort of what have been termed the 'radical futurists' to think beyond neoliberalism (e.g. Laloux, 2013; Rifkin, 2014; Gilbert 2015; Mason, 2015; Srnicek and Williams, 2013, 2015). This emerging body of work has raised the possibility of a future post-capitalist society arising out of wider economic and technological change, helping to restart a sense of

history when triumphalist neoliberal intellectuals had declared that it had come to an end (Fukyama, 1992). Its central challenge, however, is how to provide a viable roadmap to the future and not simply a prediction of it.

Version 2. The general intellect as 'liberal rationalism'

What may be regarded as a second version of the general intellect can be traced back to the Enlightenment and is reflected in the emergence of a subject-based approach to education (e.g. the humanities, arts and the sciences) that have been developed in both secondary schooling and at university. The central concept is of a philosophical openness, questioning and critical approach to learning and the development of an educated and moral individual by the passing on the 'best knowledge'.

The liberal rationalist intellect achieved an advanced expression through the Scottish Enlightenment concept of a university-based 'democratic intellect' (Davie, 1962). Its central idea is that of an educated person is inducted into academic subject disciplines that are bound together by a general philosophy (Leicester, 2016). There is also an ideal that this form of education should be available to all. The central organisers of this version of the general intellect have been what Gramsci referred to as 'traditional intellectuals' – people of letters – who having experienced this kind of education themselves would become the teachers and professors who mediate its delivery in the education system and particularly through the university.

The main issue facing this liberal rationalist intellect model and its democratic interpretation has been its partial nature. While, rhetorically at least, it is intended as a universal right for all young people to prepare them for society and wider life - the elevation of the 'lad o' pairts' - the reality has been less inclusive. It has been articulated through a divided school system, selective assessment and the wider impact of economic and social inequality, all of which blunted its universal intent. Having evolved in a divided system and society, as a curriculum Liberal Rationalism has also recoiled from a sustained engagement with vocational education and working life that has been becoming more, not less pressing, with technological and scientific change.

Over the past two decades this particular concept of education and of the general intellect has started to fragment; retreating into a defence of the subject-based curriculum or mutating into an argument for a more generic set of global problem-solving and citizenship competences. Its crisis reflects divisions between different political and economic constituencies within modern UK capitalism. On the one hand, neo-conservatives, such as Michael Gove (2009), have appropriated the Scottish idea of the democratic intellect as specialist subject knowledge. This is allied to Hirsch's (1987) concept of cultural literacy and 'hard facts' who, as a committed US Democrat, interestingly describes himself as a 'man of the Left'. the CBI (2012), on the other, have been promoting a broader generic skills agenda to reflect what employers say they want from education and training.

Despite this retrenchment and fragmentation, the concept of a liberal rationalist intellect also retains strong purposes in the 21st Century because of the preparation it can provide for more systematic thinking based on established knowledge. The abiding challenge for this version, however, is to try to break free from its strong strands of traditionalism and elitism. This would mean, for example, engaging with life beyond the formal curriculum and engaging with a wider technological and economic modernity rather than simply signaling continuity with the past.

Limits of the two versions – towards a third model

As Figure 1 illustrates the first two versions, in their different ways, fracture regarding the relationship between economics/technology and politics/culture/education; specialist and general thinking and activity; vertical and horizontal political and intellectual leadership and the present and the future. A third version attempts to overcome the limitations of the two models by connecting these different levels and dimensions of human thinking and activity into a unified and expansive model – the Organic Intellect.

Figure 1. Summary of three models of the general intellect

Type of general intellect	**V1. Techno-economic**	**V2. Liberal-rationalist**	**V3. Organic-connective-unified**
1. View of societal relations	• Economic determinism – intellect collapsed into production (structure) • 'inevitablism' and hidden hand of history	• Intellect divorced from productive life (focused on superstructure) • Link with the past and transmission of cultures	• Conceptualizing the 'totality of relations' or historical bloc • Building economic, social and political hegemonies • Idea of radical modernity and making history
2. Specialisation and general awareness	• Restricted specialization – Under control of neoliberal production (alienation) – Specialization without agency – thus restricted in its aim	• Divisive specialisation – Specialisation and defence of elite verticalities – confined to education or elite professions – mirrored in world of work	• Connective specialization – Applicable to all aspects and terrains of modern society – Specialization + ethico-political consciousness – Verticality and engagement with horizontalism
3. Popular belief, horizontality and universality	• Horizontalism and popular belief • Mass intellectuality as false consciousness or revolutionary revelation • Alternative concepts of education	• Common sense as ignorance • Emphasis on foundation education • Sharp division between education and work except for professions.	• Movement of common sense to good sense and the construction of a connective ethico-political consciousness • Unified education approach
4. Role of intellectuals – verticalities and horizontalism	• Revolutionary vanguard and political party - mobilise horizontalism (mass intellectuality)	• Traditional intellectuals and the imparting of vertical forms of knowledge	• The connective functions of organic intellectuals holding the vertical and horizontal terrains together in a 45-degree intellect and politics

Three dimensions of the Organic Intellect

Introduction

Here I explore Gramsci's concept of 'organic intellectuals' and their key functions in order to build a third model of the general intellect – the Organic Intellect. He was clear that the organic intellectual of the working class had to possess dualist capacities - specialized capabilities rooted in productive life, together with a more general form of consciousness to assist in the building of alliances and the progressive historical bloc [4]. However, I argue that in the conditions of modernity and the challenges of building a progressive 21st Century hegemony we now have to move beyond Gramsci's 20th Century dualism. This involves developing the model of the organic intellect that modernizes not only two, but three components – connective specialization + ethico political consciousness + the mediation and connective functions of organic intellectuals.

Relating these three components (the two forms of thinking and the functions of construction) the organic intellect could be interpreted through the emerging political culture of 'radical futurism' (Spours, 2016). First, as a dialectic and unity of vertical and horizontal forms of thinking and action conceived as an 'intellectual ecosystem' (Hodgson and Spours, 2016) and; second, as '45-degree politics' (Elbaek and Lawson, 2015), involving an increasingly diverse range of intellectual organisers. Here I analyse them in reverse order starting with the concept of organic intellectuals.

i. The role and functions of organic intellectuals

'The mode of being the new intellectual can no longer consist of eloquence, [...] but in active participation in practical life, as constructor, organizer, 'permanent persuader' and not just a simple orator [...]; from technique-as-work one proceeds to technique-as-science and to the humanistic conception of history, without which one remains 'specialized' and does not become 'directive' (specialized and political)' (Gramsci, 1971 translation: 10).

It is critically important to understand that for Gramsci the organic intellectual was not so much

a person as a set of fundamental functions. Key amongst these were the development of a new set of capacities in economic life and wider society (state and civil society); alliance building and aligning and cohering the 'subordinate historical bloc'; and creating a superior conception of the world and of the future. Organic intellectuals, organized through the revolutionary political party (the Modern Prince), would help usher in a new civilisation.

In this mediating role, Gramsci made a distinction between 'traditional' and 'organic' intellectuals. Traditional intellectuals were a 'persons of letters'; similar to the way we understand them in current society, for example, as writers, professors, journalists or civil servants. While he realized it was important to win over traditional intellectuals to serve the subordinate bloc, he was clear that working class (that today we can term 'The People') would need to develop their own organic intellectuals if they were ever to rule themselves.

As the above quote suggests, Gramsci conceived organic intellectuals as both technical specialists and having wider directive and connective functions. This dual definition of 'intellectual as organiser' meant that the organic intellectuals of the subordinate bloc would today include the likes of nurses, engineers, teachers and software designers; in fact, any type of specialist worker and not simply a political activist.

At the same time, Gramsci also understood that at this point in history not everyone was an 'intellectual by function' and that the organic intellectual capacities amongst the mass of the people had to be painstaking built. This is why he regarded the development of what I refer to as the organic intellect would result not only as an economic and political struggle, but also because of a mass educative project that aimed to develop a collective intelligence and expertise necessary for the establishment of a new hegemony. This would mean that a universal organic intellect - based on a deliberate synthesis of specialized knowledge and skill and a wider ethico-political consciousness - would have to prefigure the socialization of knowledge lodged in the 'machine'.

ii. Connective specialisation and the necessary vertical to build 'mastery'

The development of progressive specialized scientific and societal capacities cannot be simply technical; they also require social, political and economic understandings and motivations. As we have seen, while Gramsci suggested a dualist intellect (specialist and general), here I draw on Michael's work on the concept of 'connective specialisation' (Young, 1993) to argue that specialist activity can itself have particular qualities.

Reflecting on the processes of the Post-Fordist technological revolution of the 1980s, Michael argued that specialization is an integral process in modern economies and society as new forms of production arise and new types of knowledge are produced. He went on to suggest that specialization occurred in either divisive or connective forms. Divisive specialization was associated with 'sectional' and 'corporate' approaches to knowledge and professionalism (these are Gramscian concepts describing levels of political consciousness that fall short of being hegemonic and integrative). In the context of a discussion of the post-16 curriculum (the focus of Michael's 1993 article), divisive specialization was associated with insular approaches to subjects in upper secondary education. The concept of connective specialization, on the other hand, referred to understanding the role of subject specialisms in relation to the overall curriculum and its aims that could underpin the development of a number of specialist capacities, theoretical and practical – including scientific, political/economic, linguistic and aesthetic - that could also be applied across the academic/vocational divide.

Here I broaden the definition of connective specialization beyond its focus on knowledge and the curriculum by giving it a role to play in the definition of the organic intellect. Furthermore, in the world of the 21st Century economy, it is possible to identify additional types of connectivity. Economic and scientific life is becoming rapidly more complex and the emergence of hybridized forms of production and knowledge, far from signaling an end to specialization, are heralding new types that arise through what Guile refers to as their 'co-mingling' (see Guile in this volume). Moreover, viewing a specialism as both its specialist knowledge historically associated with the area and its underlying philosophical, scientific and ethical method, may hold particular

connective potential because of the possibility of developing critical conceptions capable of moving beyond the existing knowledge 'frontiers' of the specialism [5]. Additionally, the specialism may also have its own particular mode of engagement with and contribution to the more general social and political consciousness (e.g. medicine and the role of an ethical code). These specialist connectivities are important when considering how existing knowledge and skills in the world of production and working life (immaterial and material) might be critically 'renovated', and also involving consideration of democratic and activist forms of professionalism (e.g. Sachs, 2003; Whitty and Wisby, 2006).

Connective specialisation is required to build a new hegemony. Srnicek and Williams maintain that in order to achieve a new and progressive 'mastery' will require 'a collectively controlled legitimate vertical authority *in addition* to distributed horizontal forms of sociality assembled through an organisational ecology' (2013: 3/4). This can be read as both a criticism of the classical Marxist determinist view of the socialization of knowledge through technological development and of 'horizontalism' and the fetishisation of popular control. Their emphasis on the deliberate building a new socio-technical hegemony suggests that the embedding of knowledge in technologies, such as modern software, only present opportunities for transformative action, not an inevitable outcome. If the modern world of finance, production and cultural life is to be progressively transformed it will not only be the result of horizontal grassroots activism but, crucially, the contribution of committed 'specific intellectuals' (Sotiris, 2013) who are prepared to develop and apply their 'vertical' knowledge in progressive ways in a variety of state and civil society settings (Fischman and McLaren, 2005).

iii. From common sense and good sense to an ethico-political consciousness

The second dimension of the organic intellect is a general 'ethico-political consciousness'. For Gramsci this type of awareness was not only rooted the educative process, but also in the nature of 'everyday thinking' or 'common sense' and existing productive life from which the mass of people have to progress on an educative journey. For the two versions of the general intellect considered thus far, there is no positive role for popular belief; it is either 'false consciousness' or a form of ignorance to be overcome by educational or political activity. Gramsci, on the other

hand, took a more ambiguous view of common sense - the world of spontaneous thoughts and feelings - seeing these as a form of thinking to be criticized yet to be critically engaged with.

Common sense was seen as comprising bits and pieces of ideas or 'stratified deposits' that slowly settle into an unconscious popular philosophy. As such, this form of popular belief is full of ambiguities and contradictions that provide a fragmentary conceptualization of one's life experience and thus a tendency towards support for the dominant order (Hall and O'Shea, 2013). Nevertheless, Gramsci was mistrustful of the classical Marxist concept of false consciousness as a form of self-deception and, instead, recognized that within common sense there existed certain truths or 'a healthy nucleus of good sense, which deserved to be made more unitary and coherent' (Gramsci 1971: 328). The progressive elements of common sense would, in part, arise from the jarring effects of everyday exploitation and oppression, although he also recognized that these could also give rise to cynicism and fatalism. He also understood that types of consciousness are always historically situated insofar as 'every social stratum has its own common sense and its own good sense, which are basically the most widespread conception of life and of man' (Gramsci 1971: 326). In other words, Gramsci did not write off common sense, but saw it as absolutely necessary site for ideological transformation.

Good sense, on the other hand, was seen as a more advanced consciousness; as an 'intellectual unity and an ethic in conformity with a conception of reality that has gone beyond common sense and become, if only within narrow limits, a critical conception' (Gramsci 1971: 333). Given the ambiguous nature of both common sense and good sense, he maintained that the process of developing the good sense did not always entail 'introducing from scratch a scientific form of thought into everyone's individual life, but of renovating and making critical an already existing activity' (Gramsci 1971: 331). Developing this dimension of the organic intellect - as the movement from common sense to good sense – could be understood as a capacity for reasoning, questioning, self-reflection and systematic and ethical thinking. As such, it could also be viewed as a progressively specialized form of intellectual activity; a process of 'becoming' more specialized by developing more connective thinking and ultimately a coherent requires the

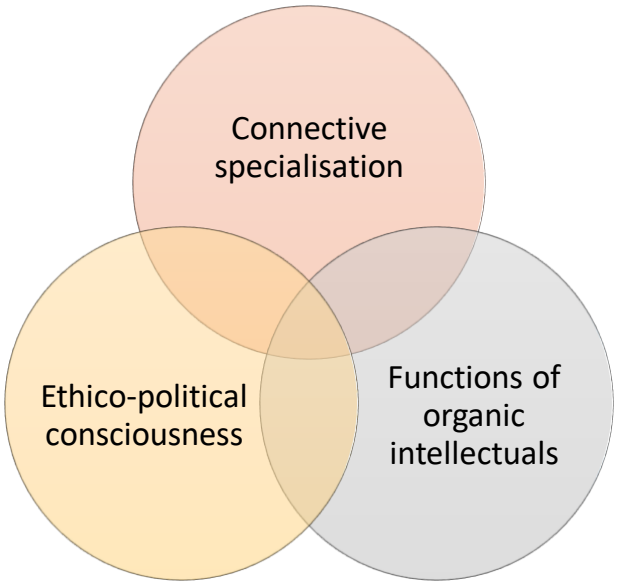
educative assistance of organic intellectuals.

The final movement to an ethico-political conception of the world, which Gramsci as a Marxist regarded as the 'philosophy of praxis', has to be completed beyond the bounds of formal education and the curriculum that is regulated by the State. In modern conditions this dimension of consciousness can be led by what Gramsci referred to as a humanistic concept of history (historicism), an understanding of political economy and participative and self-organised activities located in relatively autonomous parts of civil society through, for example, professional communities of practice, trade unions, social movements and political parties.

The organic intellect in the context of the 21st Century

The globalized world of the 21st Century has progressed to a different stage of capitalism compared with the emerging Fordist world on which Gramsci reflected. The world of neoliberalism and its alternatives is both more fractured and yet potentially more connective; thus requiring a multi-dimensional and holistic intellect in order to understand the complexities of modern society that also includes the means to bring about its necessary transformation.

Figure 1. Three dimensions of the organic intellect – towards an intellectual and political ecosystem



As Figure 1 suggests, the organic intellect involves an increasingly coherent conception of the world being universalized by the growing forces of progressive organic intellectuals spread throughout growing civil society. The organic intellect cannot, therefore, be separated from the means of its development. As such it constitutes both 'ship and the sea'.

Relating the vertical and horizontal – towards 45-degree praxis

Connective specialization and the processes of developing ethico-political consciousness could be viewed as the vertical and horizontal dimensions of the organic intellect, the relationship of which is organized by the functions of organic intellectuals. This dialect between the vertical and horizontal is taking place in a world in which production and knowledge is complexifying. It is also a context in which potential organic intellectuals are now becoming more distributed and networked throughout 21st Century civil society than Gramsci's 20th Century hierarchical assertion that they would be concentrated in the political party (Spours, 2016). Similarly Mason, in his work on post-capitalism (2015), associates the transition from neoliberalism with a networked individual of multiple economic selves (in the world of work and non-work) that through the development of a decentralized and collaborative project might steer different directions to a post-capitalist future. While Srnicek and Williams rightly remind us of the 'necessary verticalities' to build the new socio-technical hegemony, we also have to integrate into the organic intellect a 'vibrant horizontal' - the developing social, networked, campaigning and digital movements - whose activism can contribute building the new 21st Century hegemony and who do not simply manifest themselves as the Multitude.

In the task of 'reclaiming modernity' (Fisher and Gilbert, 2015), the organic intellect could thus be conceived as 45-degree understanding and activity or praxis. Here the concept of 45 degrees does not refer to a fixed middle position, but is symbolic of the dialectical interaction of apparent opposites and acting as 'The Bridge' (Elbaek and Lawson, 2015) that spans the specialist and general; the vertical and horizontal; heterogeneity and homogeneity; parts and the whole; the present and the future. The totality of these relations could also be viewed as an evolving intellectual and political 'ecosystem' [6].

The organic intellect - challenges for contemporary education

The development of a multi-dimensional organic intellect poses particular challenges for education in the 21st Century. For the child, who from early life is being informally educated within the family, the role of the formal education process is to support the formation of the organic intellect by deliberately building the capacities for different types of human thinking and activity. Here we can see the role of a liberal rationalist subject and curriculum model as a necessary foundation, involving what Bernstein (2000) referred to as the 'singulars' and 'regions' of thinking. The concept of connective specialization would suggest that the key educational issue is the development of different forms of systematic human thinking that constantly relate the specific to the general. However, as education progresses towards working life, so increased specialization becomes more important. The multi-dimensional organic intellect would strongly suggest that in upper secondary education, for example, the curriculum provides an opportunity for the development of both specialist and general capacities for all young people, thus pointing to a diverse yet unified concept of the curriculum and its qualifications (Sahlberg, 2007; Hodgson and Spours, 2014)

The movement from common sense to good sense for adults involves a distinct but related issue. For those who are already involved in working life, and who may be already technically specialized in particular contexts, the challenge is to develop the intellect in such a way that it appreciates the inter-dependence of the further technical specialist development and the expansion of more connective, democratic and societal mode of thinking and practice – the ethico-political dimension. In achieving this, the worker or professional is in process of becoming an organic intellectual. By focusing on the organic intellect related to adult and working life we can appreciate the theoretical and philosophical contributions of Freire, Giroux and Dewey.

The recent work of Michael Young: moving from a defence of the disciplines to the 'necessary verticalities' for a more connective future?

A historicist analysis – three intellectual periods and the significance of the middle one

A unique intellectual life that spans five decades must in some ways reflect wider 'organic' developments in the economy, society and wider politics and not just the more conjunctural, but important factors such as particular intellectual partnerships [7]. Reflecting on Michael's recent work on knowledge and specialization, colleagues refer to two periods (Morgan, 2016). The first concerns the early work of 'knowledge and control' (the 1970s) which posited the socially situated and class nature of knowledge. As a theoretical innovation, it was a reflection of its time; a new sense of militancy linked to wider societal and economic crises of Keysianism.

The second, concerns his more recent work in which earlier concepts of knowledge are refuted on the grounds that they were overly socialized (e.g. Young, 2008, Young and Muller, 2016). This refutation takes the form of a sustained argument about objective (though not necessary fixed) forms of specialist knowledge that are manifested in disciplines and school subjects to which all young people should have access.

But there is, in fact, a middle period (mid-1980s to late 1990s) that culminated in the writing of 'The Curriculum of the Future' (e.g. Young, 1993, 1998). This time was the crucible where Michael, working with colleagues in the Post-16 Education Centre and more broadly across the IOE, began to forge concepts of specialization linked to his interpretation of wider economic, technological and societal changes – Post-Fordism. Here he contributed to the concept and design a unified upper secondary curriculum that remains influential to this day. It was also a period of wider theoretical innovation linked to the work of Gramsci and its reflections in UK Left intellectual life around, for example, the work of Stuart Hall and Marxism Today. It is a period that holds the key to his Futures 3.

However, this work was abandoned at the end of the 1990s largely on political grounds. Politically, 'policy-oriented optimism' gave way to a pessimism that was to emerge later in his work as 'socialist realism'. There was also a brief theoretical refutation, although this was at best partial and did not refer to the whole of his middle period [8]. The wider context for the abandonment was a period of neoliberal consolidation that was to provide the framing for the debates, in partnership with Jo Muller, that focused on a 'defensive' rejection of the adaptive strategies of neoliberal 'horizontalism' and what have been viewed as the naïve strategies of the South African ANC Government to provide a universal secondary education (Futures 2).

Period 3 – A defence of the disciplines or the creation of necessary verticalities for future reform?

Michael's most recent work on knowledge and specialization has been extensively described elsewhere in this book, so here I will only summarise it from a Gramscian perspective and the third model of the OCI. This third phase can be interpreted in two related ways - as a defence against dissolutionist tendencies or the preparation of the 'necessary verticalities' required for future progressive reform.

Michael's more pronounced knowledge phase can be primarily understood as an understandable opposition the dissolution of knowledge specialization by adaptive neoliberal forces (and many well-intentioned progressive ones too) that have sought to to interpret education modernity as the need for a more generic skills based curriculum for some learners. This is the essence of the continuing (and evidently never ending) battle with Futures 2. His recent work in partnership with Jo Muller can also be seen as offering a progressive interpretation of Conservative policies for a knowledge-based curriculum in the English context proposed by Michael Gove. So not to be intimately associated with Conservative education policy, Michael has made the distinction between 'powerful knowledge' and 'knowledge of the powerful'. The latter refers to fixed and rationed concepts of knowledge in what termed Futures 1 (e.g. the Gove reforms) and the need, in the name of social justice, to offer all young people these intellectual assets as universally available powerful knowledge. In support of this he occasionally invokes Gramsci's philosophy

of education; his opposition to the Gentile reforms under Italian Fascism that proposed experiential learning and the 'active school', and his apparent support for a traditional subject based curriculum as a way of promoting more systematic thinking by the sons and daughters of the masses (Entwhistle, 1979). Michael also focuses on the processes of 'boundary maintenance' as another form of protection of the integrity of subject disciplines against dissolutionist tendencies and also proposes the development of specialist communities of practice to ensure adequate forces behind this protection.

However, the defensive strategy is now running up against self-imposed barriers. The most notable of these is the lack of progress in developing Futures 3 of the curriculum. At several points Michael and Jo Muller have sought to elaborate Futures 3 – the future of disciplines and preferred forms of curriculum and pedagogy - but withdraw from further engagement on the grounds that the future is hard to predict and they do not have all the facts (2016: 77-78). Instead they have retreated into the continuing battle with Futures 2. I would suggest that the defensive approach has now fulfilled its function; the point has been made in relation to genericism. Instead, we should now focus on the second interpretation – the development of 'necessary verticalities' that can be applied to the new economic, political and educational landscapes.

An intellectual Fourth Period – a vertical approach to the 45-degree dynamic?

There is now a new economic, technological and political environment, that we might term 'post-post fordism', in which Michael's 'necessary verticalities' can contribute to a new dialogue with the insurgent horizontalities. I will suggest that this new phase (the Fourth Period) could involve six movements or progressions based on engagement with key dimensions of the organic intellect to help with the elaboration of Futures 3. The movements also involve Michael's own 'Grundrisse moment' – the rediscovery of a key text from an earlier period. This is 'A Curriculum for the Future' that, interpreted in new ways, illuminates the emerging networked world that we have the opportunity and duty to shape.

1. *From subject specialization to connective specialization* – from inside established disciplines, connective specialization suggests a reaching out to other areas of knowledge; to wider

frameworks and forms of practice; across the academic/vocational divide and across initial education and working life and into political and economic life more generally.

2. *From focused communities of practice to new forms of inter-professional collaboration* – the concept of connective specialization suggests dialogue and collaboration both within specialist communities and across professional boundaries; types of movement referred to as 'co-configuration' (Warmington *et al*.' 2004) and 'knotworking' (Engestrom, 1999).

3. *From a bounded to an open curriculum conception* – if the organic intellect comprises both connective specialist and a broader and more connective awareness then it follows that both of these have to be developed in the curriculum over time. This suggests a more prominent role for curriculum design that will help with, for example, the sequencing of movements from the general to the specific (processes of specialization) and from the vertical to the integrative (e.g. research project work) and that sees a progressively more open set of curriculum aims.

4. *From 'subject boundaries' to 'frontiers'* - the term frontier has been used in radical Spanish politics to refer to deliberate attempts to ideologically expand the boundaries of the progressive historical bloc by redefining the ways in which class struggle takes place (see footnote 4). I suggest that this fluid and spatial concept of frontier can be applied to the world of education. It suggests movement and redefinition of not only what is ahead or outside the frontier, but what becomes included within it and how these are now seen. It points to process of expansion and construction that leads, for example, to redefinitions of the boundaries of subjects or the relationship between what might be termed the specialist and more general activity that form part of the organic intellect.

5. *From verticality and specialization to the 45-degree intellect* - involving an engagement with the concepts of common sense and good sense as 'ambiguous territories' in which specialized and powerful knowledge forms a critical relationship with new horizontalities rather than

their refutation. This also recognises the development of hybridized forms of knowledge and skill in not only in education transitional phases, but also in professional and working life (see chapter by David Guile containing themes on 'hybridization'). It is through this relationship that 'powerful knowledge' moves to 'the power of knowledge to transform'.

6. *From socialist realism (political pessimism) to 'pessimism of the intellect, optimism of the will'* [9] – the reasons for Period 3 of Michael's work were political as well as intellectual, as neoliberalism was consolidated in an adaptive form (Newman, 2001). We are now in a new and unstable era, known as Neoliberalism 2.0, that poses grave dangers and offers unprecedented opportunities. The opportunities principally lie with the emergence of new horizontal social and political movements that require a dialogue with the 'necessary verticalities' in order to produce a mature and sustainable politics (Srnicek and Williams, 2015, Spours, 2016).

During an impressive intellectual life Michael has applied his analytical mind to building key conceptual tools which help us to better understand the society in which we live. This chapter concludes with an invitation to bring these key concepts into dialogue with a modernised Gramscian legacy to reach out, once again, from the world of sociology to the terrain of political economy.

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Endnotes

[1] 'New Times' is an interpretation of tendencies within neoliberalism, referring to the technological era we are entering that is flatter, more networked and relational.

[2] The new social political and horizontal movements and the concept of 'radical civil society' are elaborated in (Spours 2016).

[3] Passive revolution' describes the way in which a political party can absorb popular aspirations, neutralise their specifically oppositional or class-antagonistic character, and re-articulate them in the politics of the pro-capitalist centre'. See 'Transformism', http://wiki.theriomorphous.co.uk/doku.php?id=glossary:transformism:start (accessed 4 September 2015).

[4] The concept of 'historical bloc' refers to the degree of historical congruence between material forces, institutions and ideologies, and more specifically to an alliance of different class forces politically organised around a set of hegemonic ideas and structures that give strategic direction and coherence to its constituent elements.

[5] The concept of 'frontiers' is explored in the work of Errejon and Mouffe (2015). They argue that Podemos seeks to redefine the 'frontiers' of Spanish politics from capitalist/working class and Left/Right to a new cross-cutting frontier the Casta (elite)/The People. Here the concept of 'Frontier' may hold promise to understanding how the boundaries of particular forms of knowledge shift as a result of economic development and scientific discovery.

[6] For a contemporaneous discussion of the concept of 'social ecosystem thinking' linked to education and training see Hodgson and Spours 2016.

[7] 'Conjunctural' developments are the result of the accumulation of system complications that erupt on the 'surface' of politics. It is on this immediate terrain that ideology and politics is fought out between the dominant and subordinate forces. 'Organic developments', on the other hand, are deeper, to do with the totality of economic and political relations, that have historical significance. Here I apply the distinction to Michael's work to suggest deeper trends behind the move from one personal intellectual phase to another.

[8] In his 2008 work in relation to academic/vocational divisions in post-compulsory education, Michael criticizes the Tomlinson unifiers on the grounds that they had not related curriculum reform to wider reforms of society and the economy and they had not considered of the role of knowledge. There is insufficient room in this chapter to pursue this debate.

[9] Gramsci's precise words were "I'm a pessimist because of intelligence, but an optimist because of will." Letters from Prison, 1929.