Knowledge and the Future of the Curriculum

International Studies in Social Realism

Edited by

Brian Barrett

Elizabeth Rata

Knowledge and the Future of the Curriculum

Palgrave Studies in Excellence and Equity in Global Education

Edited by
Roger Openshaw, Massey University, New Zealand
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It is with deep affection and gratitude that we dedicate this book to the memory of Rob Moore, whose tremendous influence is evident throughout.

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Foreword

For over four decades, Basil Bernstein was a centrally important and controversial sociologist whose work influenced a generation of sociologists of education. His project was concerned with how the macro-level (social, political, and economic structures and institutions) is dialectically related to the way in which people understand systems of meaning and how, in the context of power relations, schooling often serves to reproduce societal inequalities. Over 35 years ago, Bernstein began with a simple but overwhelming focus: how to find ways to 'prevent the wastage of working-class educational potential' (1961, p. 308). Taken as a whole, Bernstein's work provided a systematic analysis of the relationship between society, schools, and the individual and of how schooling often systematically reproduces social inequality.

Since Bernstein's death in 2000, a group of sociologists of education has continued to develop his theoretical project and test empirically his theories of knowledge, curriculum, and pedagogy, in part in order to examine the 'what' and 'how' of social class reproduction. Every two years beginning in 2000 (during the last months of his life), the International Basil Bernstein Symposium has been held (in Lisbon, Cape Town, Cambridge, Newark, Cardiff, Brisbane, Aix-en-Provence, and Nagoya), leading to a number of books and papers that have been published or are in the process of being published. In addition, Rob Moore's *Basil Bernstein: The Thinker and the Field* (2013) has provided a comprehensive analysis of Bernstein's lifetime work. Finally, a group of Bernstein scholars (including Rob Moore, Michael Young, Johan Muller, and Karl Maton) working in what has been termed the social realist tradition have pushed for the development of a systematic theory of knowledge that extends Bernstein's sociology of knowledge. In particular, Young's *Bringing Knowledge Back In: From Social Constructivism to Social Realism in the Sociology of Education* (2008a) provided an important analysis of how the social realist tradition has contributed to our understanding of the ways in which the social construction of knowledge is related to larger philosophical and sociological questions in the field.

During this period, one of the major debates among Bernsteinian scholars has been how to develop Bernstein's projects with respect to issues of description and analysis. That is, to what extent should

sociologists of education empirically describe in scrupulous detail the mechanisms through which inequalities are reproduced at the micro-level of schooling and to what extent should these descriptions be linked explicitly to macro structures in society? And finally, to what extent should these descriptions and analyses be used in the formulation of policy recommendations to ameliorate social and educational inequalities? In fact, these questions are not mutually exclusive; important work in the Bernsteinian tradition has attempted to address all three and, in doing so, has connected two of the essential areas of Bernstein's work: curriculum and pedagogy.

Brian Barrett and Elizabeth Rata's *Knowledge and the Future of the Curriculum* is an important collection of work that demonstrates how social realism continues to tackle these difficult and important theoretical and empirical questions. It takes us back to the most important issues in the sociology of knowledge, from Marx, to Durkheim, to Mannheim, and to Bernstein as it analyses the relationship between power and knowledge and how access to powerful knowledge is at the heart of both explaining and addressing the social reproduction of inequality through schooling from the primary to the postsecondary levels. Through detailed description and analysis of the ways in which unequal access to such knowledge is related to school curricula and pedagogies, the authors provide an essential extension of the ultimate goal of Bernstein's project: to understand the nature of educational inequality. This is central to a progressive policy towards educational equity. Barrett and Rata conclude their introduction by suggesting that

> in offering a theory of powerful knowledge, social realism has established itself as an appropriate research programme for a socially progressive sociology of education. Underpinned by a concern for fostering social justice through epistemic access, each of the chapters included in this book seeks to extend this programme in the interest of educational excellence *and* equity.

When I published *Knowledge and Pedagogy* (Sadonvnik,1995), and in addition to Paul Atkinson's important *Language, Structure and Reproduction* (1985), there were a growing number of Bernsteinian scholars who were extending and testing Bernstein's theories. This book adds to that number and, through its careful attention to equity, inequality, and social justice, puts this Bernsteinian concern front and centre for future research in this tradition.

Basil Bernstein was my mentor and friend from 1979, when I first studied with him when he was a Visiting Professor at New York University and I was a doctoral student. Over the years, both in New York and in London, we talked about the need for continued testing of his theories in a variety of educational and societal settings. He often stated that it was through his own students and other Bernsteinian scholars that his project would be refined and extended. Fourteen years after his death, he would be pleased with how far we have taken his work. And Barrett and Rata have continued this important work in a way that prods all of us to put inequality and social justice at the centre of this work.

Alan R. Sadovnik
Rutgers University at Newark
March 2014

Series Editors' Preface

The series *Palgrave Studies in Excellence and Equity in Global Education* is a bold new initiative for the transnational study of education. The linking of excellence and equity in this timely series is intentional. It is only at a first and, indeed, a cursory glance that the two concepts will appear in any way disparate. A more perceptive view will acknowledge the potentiality in considering excellence and equity in dynamic relation to one another. There are two significant reasons why this latter understanding ought to prevail. First, in the view of many researchers, teachers, policy makers, and parents, excellence and equity, very far from being incompatible, remain dual, even inseparable themes in education today. Second, there is a pressing need for scholars to extend and broaden the various debates and issues that surround excellence and equity in a way that clearly focuses on the various ways education systems around the globe have conceived and responded to them. This being the case it is unfortunate that, as yet, there have been few sustained attempts within a single series to critically examine the way in which excellence and equity both complement and also conflict with one another.

This series is, therefore, designed to serve an important educative function. Specifically, it has a crucial role to play in enabling students, lecturers, researchers, and policy makers to develop crucial and critical knowledge regarding the concepts of excellence and equity and to learn how these play out within a range of different contexts. Thus it is intended that this multinational series will make a major contribution to the broader international and national debates surrounding excellence and equity. A particular feature of the series is that the authors/editors of each volume will illustrate in their various ways how excellence and equity are broadly conceived within their specific region or nation, through fields of inquiry and methodologies as diverse as history, sociology, critical pedagogy, critical theory, feminist studies, ethnicity studies, policy studies, and/or political studies, to name but a few of the approaches currently being explored around the globe in the twenty-first century. In turn, this inclusive approach will challenge readers to confront the issue of what the future may hold for the particular site or location of inquiry selected by each volume in the series.

Moreover, the above approaches will enable rigorous reinterpretations of diverse educational contexts such as curriculum, pedagogy, leadership, and policy as well as extending across various contested sites such as early childhood education, elementary-primary schooling, secondary schooling, or the tertiary sector. For instance, authors, editors, and contributors to the series might choose to analyse in some depth the various ways in which the concepts of excellence and equity have been conceived in the past, conceptualised in the present, and how they might be addressed in the future.

Regardless of the method or approach adopted by the scholars involved in writing for the series, however, there is general agreement that the series should seek to clarify, for both specialist *and* general readers, the development and rationale behind current policy pronouncements in a manner that is both scholarly and accessible. Readers will thus be able to appreciate the tensions and challenges involved in implementing both excellence and equity within public education systems. They will also be able to identify broad links between their own specific national context and other national contexts. In seeking to achieve and sustain logical coherence, the series will be giving a specific educational expression to the approaches pioneered by a number of transnational studies that have attempted with considerable success in recent years to explore the ways in which past, present, and future events and debates have been shaped by processes and relationships that transcend national borders (Curthoys and Lake, 2005).

Brian Barrett and Elizabeth Rata's edited collection entitled *Knowledge and the Future of the Curriculum: International Studies in Social Realism* is the first volume in the series. For many reasons it is highly appropriate that it be so located. Barrett and Rata have done the field of educational inquiry and scholarship a considerable service in that they have brought together the work of key curriculum researchers, who contributed to the Second International Social Realism Symposium at Cambridge University in 2013. The book is grounded in a common understanding among its distinguished contributors that it is educational knowledge, rather than experiential and other forms of knowledge, that influences students' futures. Denial of access to educational knowledge, the authors maintain, is one of the most fundamental inequitable practices within education. Hence, students marginalised in this way by schools and teachers have no means of achieving the very excellence which will enable them to participate fully in modern society.

In their perceptive introduction, Barrett and Rata explore the potentialities of and the challenges posed by a realist view of knowledge,

which they present as a necessary alternative to earlier critical accounts which were overly focused on the perceived cultural needs of students. Building on the work of theorists such as Durkheim, Vygotsky, and Bernstein, they outline the case for building key concepts and content knowledge into future curricula that will radically reshape them in ways that are *genuinely progressive,* in the sense that they lend themselves to social and educational justice. In so doing Barrett and Rata seek to emphasise the objective features of knowledge. They perceive knowledge as socially and historically produced by communities and always in flux. It is the very fluidity of knowledge that invites ongoing evaluation, criticism, and continual development.

Successive chapters in this volume illustrate the fact that some forms of knowledge are simply more powerful than others – hence students who are denied access to them will be seriously disadvantaged. For example, informal knowledge of the kind that students develop within everyday life is unlikely to carry as much weight as the more formal knowledge they might develop within schooling and the curriculum. Thus it is the responsibility of schools and teachers to ensure that every student has access to the most powerful knowledge.

The distinguished contributors to *Knowledge and the Future of the Curriculum: International Studies in Social Realism* thus offer us a fresh approach – one that is not exclusively concerned with critical accounts of denied access. Rather, they collectively offer their readers a critical and future-oriented argument for knowledge that holds a central relevance for all those interested in education – be they scholars, teachers, students, or policy makers. In so doing, they fittingly launch this series through advancing a clear and cogent understanding of the very nature of equity and excellence within national contexts and across national boundaries. In short, what we have here is a fascinating and innovative range of contributions that, taken together, will open up the issues surrounding the theme of powerful knowledge in relation to the key concepts of the series – excellence and equity.

Roger Openshaw and Margaret Walshaw

Acknowledgements

We wish to thank each of the contributors to this volume as well as all those who participated in and supported the Second International Social Realism Symposium held at Homerton College, University of Cambridge, in 2013. Their work serves as testament to the sociality of knowledge.

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Graham McPhail taught secondary school music for 21 years and subsequently worked as the national moderator for secondary school music in New Zealand. Currently he works in the School of Critical Studies in Education, at the Faculty of Education, University of Auckland, New Zealand, where he lectures in music education, research methods, and the sociology of education. He has recently published in the *International Journal of Music Education, Research Studies in Music Education,* the *British Journal of Music Education,* and the *New Zealand Journal of Educational Studies*. His current interest is in music curriculum content and the interplay between conceptual and procedural knowledge. He is artistic director of New Zealand's baroque orchestra NZ Barok.

Rob Moore recently retired from his post as Senior Lecturer and then University Senior Research Fellow in the Faculty of Education, University of Cambridge, UK, and became an Emeritus Fellow of Homerton College, Cambridge. He made extensive and distinguished research contributions in a variety of fields, perhaps most notably to work on sociology, knowledge, and curriculum change; the field of Sociology of Education; and the work of Basil Bernstein, epitomised in his recent monograph *Basil Bernstein: The Thinker and the Field* (2013).

John Morgan is Professor of Curriculum at the University of Auckland, New Zealand, where he is co-director (with Elizabeth Rata) of the Knowledge and Education Research Unit. He is an expert in geographical education and is especially interested in the question of what geographical knowledge is taught (or not) to students in schools. He has published three books in this field, the most recent being *Teaching Geography as if the Planet Matters* (2012). This has led him to a growing interest in the cultural politics of school knowledge.

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Elizabeth Rata is an Associate Professor in the School of Critical Studies at the Faculty of Education, the University of Auckland, New Zealand. Her major theoretical paper on the politics of knowledge won the British Educational Research Association's Paper of the Year in 2012. That paper led to her book of the same name: *The Politics of Knowledge in Education* (2012). She is the founding director of the Knowledge and Education Research Unit (KERU) at the University of Auckland, which focuses on research into what knowledge should be taught in educational institutions.

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Michael Young is Professor of Education at the Institute of Education, University of London, UK, and a Visiting Professor at a number of universities in the United Kingdom and overseas. His main research interests are in the sociology of the curriculum, professional knowledge, and qualifications. He is the author of *Bringing Knowledge Back In* (2008) and co-editor (with Stephanie Allais) of *Implementing National Qualification Frameworks* (2013). His books, *Knowledge, Expertise and the Professions* (edited with Johan Muller) and *Knowledge and the Future School* (edited with David Lambert), will be published in 2014.

Abbreviations

ANAR	*A Nation at Risk*
CCSS	Common Core State Standards
LCT	Legitimation Code Theory
NCEA	National Certificate of Educational Achievement
NCLB	No Child Left Behind
NSOE	New Sociology of Education
PISA	Programme for International Student Assessment
SAT	Scholastic Aptitude Test
SD	Semantic density
SFL	Systemic Functional Linguistics
SG	Semantic gravity
STEM	Science, Technology, Engineering, and Mathematics
TIMSS	Trends in International Mathematics and Science Study
TTA	Teacher Training Agency
VET	Vocational Education and Training

1

Introduction: Knowledge and the Future of the Curriculum

Elizabeth Rata and Brian Barrett

> The curriculum of the future should be the curriculum of knowledge.
>
> (Moore, 2000, p. 33)

This book starts from the premise that one of the most fundamental inequalities in education is that of access to the most powerful knowledge. However, the nature of that powerful knowledge, its place in the curriculum, and the role of schools and teachers in promoting its acquisition have, for some time, been sidelined in education policy developments and debates. These, depending on the national context, have tended instead to emphasise performance standards, accountability, competencies, and skills aimed at producing 'lifelong learners' for the twenty-first century global economy.

Elsewhere, the field of sociology of education has been home to sustained efforts intended to 'give voice' to historically marginalised groups of students by critically debunking the 'official' curriculum as simply reflecting the experiences and reproducing the interests of dominant groups. However, such relativist approaches have served in part to constrain access to powerful curriculum knowledge, particularly among those very students for whom the field has often been most committed to advocate. As such, we suggest that the field requires a theory of knowledge capable of providing the argument for the centrality of concepts and content knowledge in the curriculum as a *progressive* option in support of social and educational justice. We recognise that any challenge to the sociology of education's widely accepted positioning of knowledge and curriculum as instruments that simply reproduce educational and social inequality is likely to be read by many as reactionary, conservative, or elitist. Accordingly, it is essential to be clear with regard

to what we mean by knowledge and how the knowledge we identify as 'powerful' is the means to enhance educational justice.

The social realist conceptualisation of knowledge that we seek to advance in this book has developed as an alternative to 'critical' accounts within the sociology of education that, in the words of Basil Bernstein, treat knowledge as 'no more than a relay for power relations external to itself; a relay whose form has no consequences for what is relayed' (Bernstein, 1990, p. 166). Social realism, as a research programme in the sociology of education (and as opposed to its long-term use in the field of aesthetics), recognises instead the *emergent* and *objective* properties of knowledge and emphasises that these qualities are rooted in *social* grounds. In combination, these qualities allow us to identify certain forms of knowledge as worth making available to all students through education policy, curriculum, and classroom pedagogy.

Like much critical scholarship in the sociology of education, a social realist understanding of knowledge begins by affirming that *all knowledge is socially produced*. However, the recognition that knowledge is socially constructed often comes to be presented within the sociology of education as the claim that it cannot be separated from the social conditions of its production; that it is in fact 'a fabrication, and therefore an artefact, a fiction' (Bourdieu, 2004, p. 26), undermining its status as knowledge. In rejecting this view, a social realist approach to knowledge concerns itself with establishing what the 'social construction' of knowledge *actually* entails.

Here a social realist approach suggests that knowledge, as a product of enduring socio-intellectual networks that are extensive in time and space, possesses emergent properties that allow it to move beyond the immediate social and historical context of its production. It can be known by people of any time and place. While knowledge is never infallible (in an absolutist and positivistic manner), its objectivity can be guaranteed. It is a guarantee of 'provisional truth' made possible through collective procedures for the independent evaluation of knowledge claims. The most important procedure is that of making the knowledge public so that it is available for criticism and judgement according to concepts and methods created over time by respective disciplinary communities. The concepts and methods developed by such communities, usually in universities and research institutes, are themselves subject to ongoing criticism and judgement as are the ideas that are continually developed in the discipline.

This position provides the grounds for making the claim that some forms of knowledge are more powerful than others in terms of the

reliability of the explanations they provide and the new ways of thinking about the world that they promote. These are forms of knowledge or conceptual models that are unlikely to be acquired solely from experience in students' homes or among their peer groups and communities. Rather, they serve the purpose of allowing us to *explain* experience, usually using empirically obtained material as illustrative evidence of the conceptualised model's explanatory power.

Accordingly, we argue that the central purpose of schooling and the curriculum within it must be to provide students with equitable access to powerful curriculum knowledge that is ultimately capable of taking them *beyond* their experiences. Maton and Moore (2010) note that '[t]he impulse underlying social realist work is towards both the creation of epistemologically more powerful forms of knowledge and establishing the means to enable them to be accessible for everyone' (p. 10). Therefore social realism works from the central problem in the sociology of education: the persistent inequality of access to powerful knowledge.

The ideas that have come to be expressed using the label of 'social realism' began to coalesce in the late 1990s (see Maton and Moore, 2010) as a result of discussions between, among others, many of the writers whose work is represented in this volume. These ideas include the social grounding of knowledge's emergent and objective properties (see, for example, Moore, 2000) and a Durkheimian recognition of the specialised and differentiated nature of knowledge (see, for example, Young, 1998; Muller, 2000). However, it is important to recognise that the roots of social realism run deep in the sociological tradition; this is demonstrated, for example, by the many references to Durkheim, Vygotsky, and Bernstein throughout this volume.

The social realist research programme has continued to gain currency through the proceedings of both a First (2008) and Second (2013) International Social Realism Symposium (a third is to be held in 2015) at the University of Cambridge. Illustrating a key social realist principle, that disciplinary knowledge is itself socially and historically located, the acknowledgment of social realism's history in the sociology of education in fact contributes to the integrity of the discipline for it is in the history of any discipline that its emergent concepts and methods are to be found. These tell us how a discipline justifies itself and provides the criteria by which its guarantees of truthfulness can be judged by others.

Social realism, then, may be best understood as a comprehensive research programme which continues to develop as it engages with the problem of educational inequality.[1] This book is a contribution to the wide range of ideas, debates, and research that make up the programme.

It seeks to remain true to the intentions of its early developers that the approach will not confine researchers within the narrow walls of an ideological straitjacket requiring a belief-type commitment from its 'followers', but will retain a willingness to grow from criticism as it wrestles with the complexities of the problem that it serves.

The chapters collected in this book combine to develop a future-oriented argument *for* knowledge (Moore, 2000) and its place in the curriculum. They also endeavour to move beyond mere critique and to offer alternatives to other current and ostensibly future-oriented arguments regarding knowledge and the curriculum, such as those invoking 'twenty-first century skills'. The contributors to this volume write creatively and innovatively about the principles of knowledge structure and demonstrate how they can inform curriculum and pedagogy. The book is divided into four parts, each dealing with a major concern of those who take a broad social realist approach to addressing the problem of educational inequality. Part I contains three chapters, each by seminal writers who place the issue of knowledge at the centre of the problem of educational inequality and who develop and refine the concept of 'powerful knowledge' as a key resource for addressing it. In doing so, Rob Moore, Michael Young, Johan Muller, and John Beck each make major contributions to developing a theory of knowledge that can inform curriculum and pedagogy. In Part II, Elizabeth Rata, Brian Barrett, and Chris Corbel shift the focus to politics and policy in order to detail the wider political and economic forces that contribute to sociology of education's central problem. Part III shifts the focus again and, by doing so, demonstrates the breadth of social realism's explanatory range. The contributions by Graham McPhail, Barbara Ormond, and John Morgan each address the curriculum itself – what should be taught – with music, history, and geography used as examples of the issues involved. Part IV addresses the hard question. Jeanne Gamble, Karl Maton, Yael Shalem, and Lynne Slonimsky ask what a social realist understanding of knowledge means for pedagogy. How is the knowledge identified in the earlier chapters as 'powerful' to be taught?

In the final part of this introduction, we go into further detail about each of the chapters so that readers may choose which section best provides their point of entry into the social realist approach to the problem of educational equity. First, however, it is important to consider two other major issues touched on by each of the contributors to this volume. Each surfaces because of the social realist recognition of the central place of knowledge in educational access. The first issue concerns what

happens to knowledge that is developed in universities and research institutes and then readied for teaching at school. Knowledge developed in the disciplines must be altered (or 'recontextualised', as Basil Bernstein would say) so that it can be taught as academic subjects at all school levels. This matter of recontextualisation raises questions about who is responsible for reworking the knowledge. Is it university academics, or curriculum officials, or associations of subject teachers, or even individual teachers?

The second issue of interest to social realists follows on from the process of recontextualisation. Disciplinary knowledge is altered in fairly significant ways as it is sequenced, paced, and reordered according to the ongoing evaluation of students' understanding. This pedagogic task is essential if the concepts of the discipline are to be taught in progressive and cumulative ways to students at all levels, including very young children through to those completing compulsory education or taking part in vocational education. Teachers themselves must comprehend what they are teaching in order to understand their role in the cumulative sequencing of academic concepts and content. They must also turn to their students and mediate the relationship between knowledge and the student.

In those cases where such mediation already occurs in the home (most often in middle-class homes where academic subject concepts and language have frequently already been made familiar to the child), the teacher's task is less about establishing the mediation and more about turning directly to building cumulative knowledge in the subject. However, when students have not encountered conceptual knowledge derived from the disciplines in their homes and communities, teachers have a double pedagogical challenge. Mediating the relationship between conceptual knowledge and the child's context-dependent social knowledge in order to 'interrupt' (to use Rob Moore's phrasing) the student's orientation to knowledge is a core task. It is often thankless as students and parents exclaim 'Why do we need to learn this stuff? I'll never use it'.

On one level, that break or interruption takes the student into the world of powerful knowledge, where they can 'think the unthinkable' and imagine the impossible. It is this intellectual freedom that is the foundation of political freedom. Yet there is a price to be paid when we step outside the world of the known. The school's role is to provide a way of thinking that separates the child and home so profoundly that, as Hegel (1820/1967) recognised very early in the gradual move to mass schooling in modern democratic nations, 'education bears upon

the child's capacity to become a member of society. In its character as the universal family . . . society's right here is paramount over the arbitrary and contingent preferences of parents' (p. 148). Thinking about what is not encountered in experience by using concepts that themselves are not known in experience is indeed a real interruption to a child's identity. Social realists do not underestimate the pedagogic difficulty faced by teachers in 'imposing' this interruption, but that is not sufficient reason for it not to occur. The recognition that the purpose of schooling is intellectual liberation is widely shared by groups including Marxists and liberal humanists alike. The pedagogic dilemma is finding teaching methods that link working-class children 'with historically evolved, universalistic, and liberating humanistic cultures' (Bailey, 1984, p. 220). For this reason, pedagogy is as much a part of the social realist research programme as is the interest in forms of knowledge and the curriculum.

The sociological project of those who have contributed to this book is to understand the interconnections between disciplinary knowledge, social knowledge, pedagogy, and the emancipatory implications of powerful knowledge. In Chapter 3, Young and Muller place the onus for developing such an understanding on the social sciences, noting that these disciplines, like all specialised knowledge communities, must 'strengthen their methods, the better to strengthen their attendant theories and the coherence of their concepts'. It is to this task that the book is dedicated. Many readers, accustomed to other approaches in the sociology of education – including various forms of relativism such as standpoint theories, critical pedagogy, and other forms of Marxist reductionism, and the instrumentalism of the so-called twenty-first century 'knowledge age' – may meet the concepts and methods used in social realist explanations for the first time. For you, we suggest starting with Part I and working through the book in order to acquire a cumulative knowledge of social realist concepts and methods. Those already familiar with these ideas might pick and choose, perhaps beginning with Yael Shalem and Lynne Slonimsky's defence of theoretical knowledge in teacher education as an illustration of what 'powerful knowledge' can achieve, before moving to the justification for this knowledge in Part I. Others may find the account of knowledge in the curriculum in Part III a more useful entre into the social realist programme. Asking questions about what should be taught in subjects like music, history, and geography will refer the reader back to Part I's concern with *what* knowledge is and forward to Part IV which is about *how* that knowledge should be taught.

Part I: Powerful knowledge

The first section of the book develops the concept of 'powerful knowledge' with chapters by Rob Moore, Michael Young and Johan Muller, and John Beck. Central to the idea of powerful knowledge is a theory of the sociality of knowledge. Rob Moore introduces the relatively new explanatory theory of social realism and explains the development of what has come to be called the social realist explanation of the sociality of knowledge, that is, an explanation of how knowledge can be *both* social (in that the knowledge is developed within a community of scholars) and epistemic (in that what emerges can become independent of that community).

In identifying the absence of a sociological theory that accounts for the sociality of knowledge, Moore draws attention to 'the problem of the problem', what he calls the 'blind spot' of knowledge in the discipline. Like other contributors, Moore's concern is with how a social realist understanding of the problem of unequal access to education can break the stalemate caused by the drift towards relativism in the sociology of education. According to Basil Bernstein (1977), '[t]his may require a widening of the focus of the sociology of education, less an allegiance to an approach, and more a dedication to a problem' (p. 171).

Moore stresses that students' social and cultural relationships *to* education are not automatically reproduced *in* education (as evidenced in the significant number of socially disadvantaged pupils who manage to excel academically year in and year out). Therefore he argues that some of the attention that the sociology of education has long directed exclusively to implicating schooling in the reproduction of inequality must be dedicated instead to identifying the forms of knowledge students should be expected to encounter in school. This is knowledge that carries with it emancipatory power which enables individuals to have a degree of control over their life trajectory. He explains why social realism is an appropriate framework for a socially progressive sociology of education, detailing how it secures, *contra* postmodern and earlier constructivist relativisms, strong justice claims with strong, rather than weak, knowledge claims.

Moore's chapter concludes by arguing that the sociology of education requires a positive account of powerful knowledge for all. This is taken up by Michael Young and Johan Muller in Chapter 3 and by John Beck in Chapter 4. They make the case for the development of 'powerful knowledge' as a sociological concept and as a curriculum principle. In establishing powerful knowledge as a sociological concept they

note particularly that it is *specialised* and *differentiated*. Powerful knowledge is specialised in how it is produced in academic settings and in how it is pedagogised to be transmitted and acquired in school settings. It is differentiated, through conceptual boundaries between everyday knowledge and the school knowledge of academic disciplines and subjects, from the experiences and interests that students bring to school with them. This certainly does not preclude students and teachers from drawing connections between everyday knowledge and school knowledge. However, this is a process that has much more to do with issues of *pedagogy* than issues of *curriculum* (as the chapters in Parts III and IV make clear); these are terms with meanings that must not be conflated. While everyday knowledge is linked to the context-dependent particularities of everyday experience, powerful knowledge deals primarily in generalisations that are often 'problem portable' and capable of transcending context. As Beck notes, powerful knowledge is knowledge that enables students to develop a critical awareness of the forces structuring their own lives and to imagine alternatives *beyond* their everyday experiences.

Young and Muller discuss the contributions made by Emile Durkheim and Lev Vygotsky to our understanding of the differentiation and specialisation of knowledge, by Rob Moore's identification of the four properties of 'powerful knowledge', and by the extensive work of Basil Bernstein in understanding the implications of specialised knowledge for curricular transmission. In detailing how the human and social sciences differ from the natural sciences, they explain how 'the problem of other minds' has affected the social science community for many decades with numerous consequences, not least the retreat from knowledge in the curriculum. Their discussion of the separation of the known from the knower is central to a realist approach and is a constant theme throughout the book.

John Beck's engagement with the ongoing development of the concept of powerful knowledge, initiated by Michael Young and taken up as the theme of this book, explores the dyad 'powerful knowledge' and 'knowledge of the powerful'. Beck demonstrates how the ideology of knowledge of the powerful operates in government projects of trainability and how the nature of professions and professionalism is being redefined as a result. He distinguishes the distinctive meanings of powerful knowledge for educational purposes and concludes by identifying three chronic tensions which impede efforts to extend powerful knowledge to socially and economically disadvantaged students.

Part II: Knowledge politics and policy

Part II considers the place of powerful knowledge across a range of national contexts where knowledge has recently re-entered the education policy debate. In 'Knowledge and Democracy: The Strife of the Dialectic', Elizabeth Rata develops the argument that the conceptual knowledge of the disciplines is as much a political resource as an intellectual one. Thinking in the abstract and objective ways demanded by disciplinary study enables students to conceptualise what society is and what it might be. Politics is the enactment of those ideas. Crucially, she argues that it is the ideas that come first. It is the role that the disciplines serve as a symbolic resource for democracy that creates the integral link between democracy and knowledge. Early in the modern period Immanuel Kant regarded the 'strife of the dialectic' as the necessity of reason *and* the necessity of politics. Rata's chapter shows how the dialectic of doubt and critique produced in the disciplines is essential to the three structuring components of progressive society – the nation as the site of the public, the state, and the citizen – and also to the symbiotic relationship between these three components. The loss of confidence in the disciplines, one seen in the emptying out of the curriculum and the misguided belief by 'future age' advocates that knowledge is 'process', 'competencies', and 'skills', points to an intellectual crisis that goes deeper than weakening the disciplines. Disciplinary authority to create modern society's symbolic resources is placed at risk with serious consequences for democracy.

Rata traces the weakening of the symbolic resources for democratic nations' collective representations to the new political economy of global financial capitalism and its regulatory politics of neoliberalism. The humanities, in particular, suffer the most. These subjects, particularly history, literature, and the arts, serve two purposes. They are the raw material of the progressive modern nation, creating the symbols of the nation's existence and purpose. They are also the content of their respective disciplines. Within this dual purpose, it is the task of disciplinary procedures to ensure that the discipline does not descend into a nationalistic ideology but remains contested, thereby retaining a generative capacity in the service of democracy. The current weakening of the nation as the site for democracy is the result of the economic imperative that the financial global market exerts upon weakened national education systems. One 'weakening' mechanism has been the privatization of what has long been a core infrastructure for creating the 'public' of the modern democratic nation. It is no coincidence that building

national education systems goes hand in hand with progressive nation building. As Rata argues, the dismantling of the progressive nation ushers in the return of the pre-modern, the world ruled by elites who use a powerful blend of 'culture' and 'technology' – a 'virtual romanticism' – to justify inequality and privilege. Education systems that contribute to reactionary modernism, to a technological dark age, do so by replacing a curriculum based on the products of the human mind with an instrumental education that understands knowledge as nothing more than a 'process', a 'competency', a 'skill'.

Brian Barrett's chapter, 'Risky Business: The Marginalisation of Knowledge in American Education Reform since *A Nation at Risk*', addresses the theme of Part II by looking at the effects of politics as they are expressed through a series of policies over time in the United States. It shows how the agendas of both the left and the right, one for progressive education and one for privatisation of public education, have allowed for the abandonment of knowledge as the primary object of education. Barrett shows how, across the United States, students' social backgrounds are significantly related to the opportunity to cover content with large race- and class-based differences among students in high-level course-taking, particularly in subjects such as mathematics and science. Schools serving large numbers of low-income, African American, Latino, and Native American students are frequently found to be 'bottom heavy', offering fewer academic and college preparatory courses and more remedial and vocational courses that tend to train specifically for low-status occupations.

Barrett begins with an overview and critique of major education reform efforts in the United States since the release of the 1983 *A Nation at Risk* report. It demonstrates that these efforts, including Goals 2000, the No Child Left Behind Act, and the Race to the Top initiative, have exacerbated long-standing inequalities in students' access to powerful knowledge. Rather than addressing the unequal access to a challenging curriculum rich in subject knowledge that characterises the American education system and that goes some way in explaining its declining international standing, education reform in the United States has instead favoured managerial solutions heavy on test-based accountability and choice.

However, there is an alternative to this pessimistic picture. As Barrett points out, access to content can mediate the strong correlation between students' social background and their levels of educational achievement. He draws on the examples of high-achieving nations such as Finland and South Korea, where the correlation between students' background and achievement has been diminished in the wake of efforts

to provide all students with access to an academically rigorous common curriculum. This conceptualisation of knowledge is contrasted with tendencies within sociology of education to write off academic knowledge as simply the outcome of power relations, the 'knowledge of the powerful', a theme introduced earlier by John Beck in Chapter 4. In keeping with the forward-looking approach taken by all the contributors to this book, Barrett concludes by suggesting from a social realist perspective that the Common Core State Standards recently adopted in 45 American states present both important possibilities and potential pitfalls in the quest to promote more equitable access to powerful knowledge nationwide.

Chris Corbel also investigates what happens to the type of knowledge taught in educational institutions when policies are promoted by groups with their own political agendas. In order to explain the focus on skills found in the educational policies of most developed nations seeking to develop 'knowledge economies', Corbel explores the apparent contradiction through an analysis of the word *knowledge* and its relationship with *skills* in vocational education policy discourse. Using the concept of differentiation, one central to the social realist literature and discussed in detail by Moore in Chapter 2 and Young and Muller in Chapter 3, this chapter shows that the opposite process is occurring with 'loud voices' raised in the clamour for the skills and knowledge approach found in discourse invoking a 'knowledge age'. However, Imre Lakatos (1980) reminds us that 'the number, faith and vocal energy of supporters' (p. 10) are no guarantee of good science. Corbel warns of the de-differentiation of knowledge and skills that is occurring in the current skills and competency movement with a decline in the status of knowledge as a consequence. He supports his argument through a detailed examination of the growing use of the phrase *knowledge and skills*, which shows that although *knowledge* still appears, the meaning of the phrase is carried by the currently prevailing view of skills. In fact, as Corbel explains, *knowledge and skills* has become a single lexical item in which the word *knowledge* in particular has become 'delexicalised'. With such weakening of the term 'knowledge' itself, ironically within the twenty-first century 'knowledge age' approach, the language terrain for the social realist argument about differentiating forms of knowledge is itself greatly undermined.

Part III: Powerful knowledge in the curriculum

With powerful knowledge established as a sociological concept in Parts I and II, Part III focuses on operationalising it as a curriculum principle.

This is a process capable of generating alternatives to the narrower, more instrumental, and, often, more ideological criteria typically adopted by policymakers in offering justifications for the inclusion of content in the curriculum. In light of the conceptualisation offered in the preceding chapters and as a result of their ability to transform, predict, and control aspects of the material world, the STEM (Science, Technology, Engineering, and Mathematics) disciplines are frequently (and correctly) held up as exemplary sources of powerful knowledge. However, despite the increasing emphasis placed on education in the STEM disciplines by governments throughout the world, the chapters collected in this section suggest that they do not offer the *only* exemplars of powerful knowledge in the disciplines.

Part III contains three chapters that look specifically at what the indecision, confusion, or, at worst, the 'emptying out' of knowledge from the curriculum in recent decades means for specific subjects. Graham McPhail uses the case of music while Barbara Ormond turns her attention to history, with both chapters drawing on examples from New Zealand, while John Morgan presents the case of the 'de-traditionalisation' of school geography in England to argue that its potential to provide students with 'powerful knowledge' is presently limited. However, in keeping with the forward-looking theme adopted by those using a social realist approach to the problem of unequal access to knowledge, Morgan sees the social realist challenge for geography as both timely and urgent.

In 'Pathways to Powerful Knowledge: A Case for Music's "Voice"', McPhail engages with the features of powerful knowledge (differentiation, specialisation, explanation, and prediction) identified by Young and Muller in Chapter 3. He argues that music has these features in common with the other arts as well and that this is reason enough for their inclusion in the school and higher education curriculum. Delving deep into music's structure, McPhail finds its unique essence and the key to its potential as powerful knowledge for education to be located in music's collectively evolved generative concepts. These are relatively enduring and provide the potential knowledge to move from the realm of personal subjective experience (*qualia*) to an understanding of socially shared *semantic* and more objective meanings. An important contribution of McPhail's ideas to the growing social realist interest in what powerful knowledge actually means for the curriculum is his identification of these generative concepts. He suggests that they include the organisation and subdivision of time, the construction of melody, modes, and musical space, the use of instruments, and the place of

musicians in context. Importantly, these are universal concepts not limited to Western classical music.

Another significant contribution of this chapter is McPhail's argument that cognitive capital is created for students by engagement not only with the concepts themselves but with a critical approach for explaining and understanding music's sensory and aesthetic nature. He considers that music's essence and value lies in the dialectic of immediacy and potentiality. In McPhail's words, using ideas drawn from both Durkheim and Bernstein, 'music can be a space of tension between the material and immaterial, the inner and outer, the cognitive and affective, the sacred and the profane. In this way it acts as a symbol of human boundaries, limits, and potentialities'. This is a powerful argument with which to challenge the loss of status suffered by epistemic dimensions within music education. McPhail's contribution to the social realist literature here is thus innovative and interesting. He shows how knowledge of music's episteme can help explain the affective temporality that seems to give music much of its power and mystery, and points to music's potential beyond that of a purely affective experience. It is an argument that has direct relevance to music curriculum developers and to teachers of music everywhere. It certainly establishes a strong rationale for the importance of music in the curriculum.

Similarly, the chapter by John Morgan also looks at the question of what constitutes a subject's episteme. Is there something to be taught that is greater than the interests and perspectives of particular groups? This is a fundamental feature of the social realist approach; knowledge is recognised as a social product but it cannot be reduced to the standpoint of those who created it. In ' "Neither Existence nor Future": The Social Realist Challenge to School Geography', Morgan traces the breakdown of the notion that there might be a single core to the discipline, that there is one 'Geography' rather than multiple 'geographies', within the orthodoxy of postmodernism that has authorised the 'multiple realities' approach. He asks about the consequences for teaching a subject that has lost its substance. What is actually being taught? Although Morgan's example is school geography in England since the Second World War, the consequence of the loss of the episteme as a result of a subject's weakening disciplinary boundaries has shaken many school subjects that draw on the humanities, arts, and social sciences.

Morgan argues that, compared to the 'modern' school geography of the 1970s and 1980s, 'postmodern' school geography is not primarily concerned to ensure that students are provided with a principled and rigorous selection of geographical content and concepts. It is a shift

located at a deeper level, one discussed in Elizabeth Rata's chapter, where what has happened to subjects like geography, history, music, and others can only be fully understood by seeing these changes as a response to perceived or actual changes in the nature of global capitalism. The process of localisation is reflected in curriculum subjects that are themselves also localised. Morgan comments on the replacement of a single 'Geography' with multiple 'geographies', including geographies of sex and sexuality, postcolonialism, and disability, all reflecting wider intellectual concerns with difference and identity rather than with knowledge itself. That loss of the episteme is reinforced by the postmodern commitment to 'texts': the idea that instead of concepts that are themselves 'real' and that can be used to provide a clear (albeit provisional) account of the world, landscapes themselves are 'texts' that can be interpreted.

What are the consequences for teachers of the overall message that there is no 'Geography', only multiple 'geographies'? According to Morgan we are left with geography graduates who set out to train as geography teachers but who 'find it difficult to articulate a clear sense of geography's core contribution to knowledge and increasingly identify themselves as "cultural geographers", "urban geographers", "geomorphologists" and so on'. He identifies other consequences which draw our attention to the fact that the 'emptying out' of knowledge, as serious and troubling as it is, is joined by equally disturbing effects. Conditions have been established that have changed the nature and purposes of education and schooling. There is a return to vocational education for the working-class under the 'relevance' banner. There is the instrumentalisation of knowledge in the STEM subjects, and there is the use of pedagogy as therapy rather than the means by which students can acquire the powerful knowledge with which to understand a world bigger than themselves to which they may contribute.

Barbara Ormond's chapter evaluates the ways in which history's epistemic strength performs a similar function for history as McPhail's chapter does for music and John Morgan's for geography. She shows that history's claim to be a source of 'powerful knowledge' also comes from its 'specialisation, its robust methodologies for determining the most plausible explanations of the past, and its capacity to generate new knowledge'. Foreshadowing Part IV on pedagogy, Ormond focuses on what happens to history's generative capacity when it is altered for teaching in schools. The New Zealand example that she uses could easily be from South Africa as Jeanne Gamble points out in Chapter 11 where she too analyses how the easily assessable 'skills' approach 'empties out' the substantive-conceptual dimension from history.

While much of the chapter is a defence of history's epistemic status, Ormond also identifies two interesting issues that emerge from the effect of that loss of status on teaching history in schools. One issue concerns the role that teachers play in reshaping history for teaching at school. In New Zealand, history teachers have complete authority to determine the knowledge they teach, a situation that results in part from the loss of history's disciplinary authority in the university. Ormond argues that such autonomy places knowledge in a fragile position. While there is still the potential for teachers to deliver powerful knowledge, such dependency on the individual teacher's knowledge means that it becomes quite a random exercise as to whether or not all students receive 'powerful knowledge'. Some teachers may indeed teach powerful knowledge. Others, however, may offer highly relativistic views of history by collapsing the understanding of the past into perspectivism that includes their own personal biases, the limitations of their own knowledge, and an overemphasis on matching selection to the cultural or social environment of their students.

The second issue that Ormond identifies as a significant problem for the teaching of history at a time of the subject's weakened episteme concerns the focus of teaching on skills. With reference to Chris Corbel's insights into the conflation of *knowledge and skills*, Ormond draws our attention to how matters of methodology have taken precedence over knowledge. In her words 'it is assumed that, through inducting students into historians' practices, induction into historical knowledge will follow'. In Part IV, Jeanne Gamble also shows this to be the case in the South African experience of outcomes-based education where, she says, 'assessment tasks give the appearance of testing historical procedural or syntactic knowledge but, in fact, they assess generic comprehension and reading skills, with most of the test questions requiring only reproduction of information provided in the sources that are part of the test or examination'.

Part IV: Pedagogical implications of powerful knowledge

Following on from Barbara Ormond's discussion of history's rightful claim to being a source of 'powerful knowledge' and the implications of this for history pedagogy, Jeanne Gamble's chapter expands the book's focus to pedagogy and the *pedagogical* implications of powerful knowledge, which constitute the theme of Part IV. Pedagogy refers to what teachers do with the powerful knowledge that is included in the curriculum and to which all students should have the right of access. It refers

to how teachers work to ensure that their students acquire the powerful knowledge that they are entitled to. Success here depends on teachers' knowledge of their subject, of their students, and of how to most effectively open up epistemic access through the selection, pacing, and sequencing of the powerful knowledge that is taught in the classroom.

As Maton and Moore (2010) note, recent 'institutional changes in initial teacher training have been accompanied by more emphasis in teacher preparation and research on the processes of "learning" (rather than "learning *this*") or the social and cultural nature of "the learner" (rather than "the learner faced with *this*")' (p. 6). This has created the conditions for a curriculum based on students' (or teachers') everyday interests and experiences, favouring knowers and knowing over powerful knowledge. However, the chapters in Part IV combine to argue that a major task for teachers is to assist students in bridging the gap between everyday knowledge and academic knowledge and to introduce students to the powerful knowledge that can enable them to transcend their experience. This typically requires an induction into subject knowledge that does *not* derive primarily from or relate exclusively to students' experiences but rather one that draws from the problems, contents, and concepts of the disciplines. As such, both the form taken by curriculum knowledge in a given subject and teachers' knowledge of their students as individuals and learners should inform the pedagogical means by which they seek to open up access to powerful knowledge.

Jeanne Gamble's chapter directly addresses the issue of the relationship between knowledge acquired subjectively through experience and epistemological access to complex systematic knowledge. This is a crucial issue for those using a social realist approach to understand *what* enables access to powerful knowledge. Gamble discusses the problem with the commonsense view that learning starts with experience and the difficulty in establishing the understanding that, in fact, learning at school should be understood in a counter-intuitive way. We learn by acquiring context-independent meanings or un-commonsense knowledge in classrooms where school subjects are clearly delineated. It is access to this specialised knowledge that enables success at school. Those who acquire specialised knowledge at home, most frequently middle-class students, secure a double advantage over those who do not recognise the specialised knowledge context of the school.

Gamble develops Basil Bernstein's 'rules of sequencing' in an innovative way and, in doing so, joins the other contributors to this book in moving the social realist approach forward with new insights and understandings. She introduces a conceptual vocabulary from Karl

Popper's 'three worlds' thesis and Bernard Charlot's re-description of these different worlds in educational terms. Her purpose is to develop an independent frame for returning to Bernstein's own work. From Popper, Gamble takes the idea of a formal world of objective, systematic knowledge (Bernstein's vertical discourse). This is a world of real concepts that are different from the world of common sense or subjective experience. From Charlot, Gamble takes the idea of the 'epistemic self'. For the 'epistemic self', the school is a place where the world is treated as an 'object of thought' and not as a 'place of experience'. Gamble identifies the processes of *distancing-objectification* and *systematisation* by which the 'empirical self' is constituted as the 'epistemic self'. She compares two ideas about how this new identity is created. One is the 'learning through language' approach which understands the sequencing rule as learning proceeding from commonsense knowledge to un-commonsense knowledge. However, Gamble rejects that for the Bernsteinian approach which understands the relation between sequencing and knowledge structure in a counter-initiative way.

She argues in the realist tradition that 'we mentally construct idealised objects and the system of their connections in non-empirical space and time'. This means that learning academic subjects does not proceed from what we know in experience to knowing abstract or idealised ideas. If that was the case then *how* do students make the 'jump' from the knowledge of experience to the knowledge of the epistemic and how do sociologists of knowledge explain that 'jump'? The 'learning through language' approach offers one answer but Gamble argues that while concepts are carried in and through language, concepts are also material abstractions in their own right. In this second sense we learn the abstract concepts of academic subjects by understanding '*models* that bring logical relations between content objects to the fore. Modelling is a specialised kind of symbol-sign idealisation in science and the essence of conceptuality is that'. This is Gamble's argument for the case she makes against outcomes-based pedagogy in the final section of her chapter. When disciplines are altered to become academic subjects for teaching in schools, pedagogies that insist on skills rather than knowledge (the idealised models that are the building blocks of the episteme) are empty of those models. In Gamble's words, they are pedagogies that no longer intertwine the 'substantive-conceptual and syntactic-procedural knowledge' or subject knowledge and pedagogic knowledge of the teacher. She identifies this as reversing the sequencing rule. It means that those students who receive pedagogies at school that emphasise their experience as knowledge remain in their 'home'

identities as the 'empirical self'. They are denied access to the powerful knowledge provided in academic subjects that shape a new 'epistemic self'. These are the students who stand to benefit most from Gamble's revised sequencing rule. Counter-intuitively, Gamble says, their access to epistemic knowledge is made possible first by their access to the world of idealised models. This is a world of thought removed from experience. It is not acquired by moving unidirectionally from the common sense to the non-common sense, despite such a transition itself appearing to be 'common sense'.

The previous chapters argue that powerful knowledge is built cumulatively through processes of sequencing, pacing, and evaluation of a subject's idealised concepts. Karl Maton's chapter 'Building Knowledge: The Significance of Semantic Waves' explores how his development of an innovative theoretical approach, 'Legitimation Code Theory', sheds light on the nature of 'powerful knowledge' and what it means to build knowledge cumulatively in education. It begins by outlining the concepts of 'semantic gravity' and 'semantic density'. Second, it summarises their provenance in extending Bernstein's sociological framework and reviews how they overcome dichotomies in educational thinking more generally. Third, it illustrates how research is using these concepts to explore valued educational practices, drawing on examples from studies of student assessments, classroom practice, and theoretical frameworks. These studies suggest that 'semantic waves' (recurrent changes in the context dependence and condensation of meaning) that 'weave' and transform different forms of knowledge are crucial to knowledge-building and achievement.

Maton refers to studies and examples of students' knowledge practices to explain how analysing those practices in terms of semantic waves enables teachers, and the students themselves, to see the strengthening and weakening of context dependence and condensation of meaning in the students' writing. The analysis reveals what level of context dependence or independence and what degree of condensation of meaning are rewarded across subject areas and levels of education. The beauty of the approach is that students themselves can be involved in evaluating their own work in this Bernsteinian way. They can see how their writing changes depending upon the level of conceptual complexity that is addressed in their work and where that complexity strengthens or weakens – visualised as Maton's semantic waves. For teachers, the approach enables them to demonstrate to students how they may downshift but also upshift from plain, contextualised meanings towards more condensed, decontextualised meanings.

Maton also discusses how research which uses the analytic method of *semantic profiling* to trace changes in semantic codes over time enables us to explore achievement, knowledge-building, critical thinking, and other valued educational practices. He argues that the empirical research he references suggests that semantic waves are a key characteristic of intellectual and educational practices. His innovative contribution to this book is the idea that 'what may be "powerful" is not one form of knowledge but rather how different forms are related and changed. In short, power resides in *semantic waves* that *weave* together and transform knowledges'.

The final chapter of this volume, 'Practical Knowledge of Teaching: What Counts?' by Yael Shalem and Lynne Slonimsky, brings together social realist concerns about knowledge in the curriculum and the pedagogical knowledge of the teacher. Undoubtedly the strengthening of academic knowledge in the curriculum must be accompanied by pedagogies that enable access for students from all backgrounds. This is one of social realism's core arguments. Therefore, the place of teacher education cannot be overemphasised as central to this project. Yet, teacher education, like the curriculum and other areas of education, has been subjected to what Shalem and Slonimsky describe as the anti-intellectualism of postmodernism and the skills and competency approach of learning on the job. The writers show how immersion in practice tends to be valued ahead of 'concept building'. The result is a decline in formal and systematic knowledge as teachers are socialised into the profession.

In direct contrast to the emphasis on learning in situ, Shalem and Slonimsky argue that emulating what expert practitioners do in practice is not central to the development of professional knowledge of teaching. Disciplinary knowledge which enables discrimination and evaluation cannot be obtained from emulating the activities of other practitioners. They identify 'epistemic ascent' (Winch, 2013) to be at the heart of professional expertise. This is the ability to order, 'which comes primarily from systematic work with an organised body of knowledge at different levels of abstractions, at different degrees of complexity, in and outside of specific contexts'. It means that teacher education would benefit from emphasising the role of collective representations (rather than individual experience and personal embodiment) in the acquisition of professional knowledge. The authors explore social realist positions on professional knowledge to conclude that the crux of professional knowledge lies in specialised 'practice language' (Collins, 2011) which constitutes the criterion for seeing distinctions and relations in

the particulars of practice. This, they argue, should be the direction taken by teacher education.

Conclusion

The chapters in this volume promote an epistemologically strong, non-arbitrary theory of knowledge characteristic of social realism which offers important possibilities for the promotion and achievement of social and educational justice. It does not replace *political* concerns for equalising educational opportunity through the distribution of more equitable access to educational, social, and economic resources. However, and this is at the crux of the approach, it does recognise powerful knowledge *as a resource in itself*, and an important one at that. In accepting this, the task of those working in the field of education is to ensure that access to this knowledge is made available to all. We close by suggesting that, in offering a theory of powerful knowledge, social realism has established itself as an appropriate research programme for a socially progressive sociology of education. Underpinned by a concern for fostering social justice through epistemic access, each of the chapters included in this book seeks to extend this programme in the interest of educational excellence *and* equity.

Note

1. Rob Moore (Chapter 2, this volume) locates social realism's 'philosophical roots' in critical realism. However, the nature and extent of the connection between social realism and critical realism is a point of ongoing discussion (see, for example, Wheelahan, 2010; Maton, 2014).

Part I
Powerful Knowledge

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Social Realism and the Problem of the Problem of Knowledge in the Sociology of Education

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> When I went up [to Oxford University], and this tutor fellow saw me about June [1927], and I was going up in October and he gave me a long list of books to read before I came up, and when I told him I had read so and so and so, he just didn't believe me. And he said, 'Well where would you get these books?', because I was this sort of working class extra-mural student you know. And I said, 'Tredegar Workmen's Library'. Well that convinced him I couldn't [have]. . . . But I had read them and I was able to tell him what was in them.
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> (Archie Lush[1])

Introduction

This chapter addresses a long-standing issue in the sociology of education – the problem of knowledge. It argues that the way in which the problem has been a problem for so long constitutes a problem in its own right – hence, 'the problem of the problem'. Its persistence represents a 'blind spot' within the field regarding the question of knowledge (Moore and Maton, 2001). However, as questions of knowledge and curriculum return to the centre stage of educational policy and debate, the sociology of education urgently requires a powerful theory of knowledge in order to positively engage with and influence them (Beck, 2012b).

The chapter introduces the relatively new explanatory theory of 'social realism'. This term has a long history and a range of meanings, including a genre in the arts. However, the specific sense in which it is being used here has to do with ways in which various researchers,

individually and collectively, have worked to apply a realist sociological framework to issues of knowledge and education and to distinguish between the 'knowledge of the powerful' and 'powerful knowledge' (Young, 2008a).[2] As an epistemological position, realism has been relatively marginalised in relation to a succession of approaches, from the New Sociology of Education (NSOE) in the early 1970s to contemporary forms of postmodernism and post-structuralism that can be broadly characterised as 'constructionist' and, then, more specifically as forms of 'reproduction' theory which posit that the social construction of knowledge takes place in ways that reproduce existing social inequalities. While at one level these approaches, which often describe themselves as 'critical' ('critical race theory', for example), appear very different in terms of the various issues they address (such as class, gender, race, and ethnicity), each has typically opposed itself to 'positivism' variously conceived. As it is not possible in this chapter to address each of these approaches in detail I attempt below to construct a 'generic position' representing shared paradigmatic principles that broadly underpin this variety following Bourdieu's (2004) example in his analysis of the field of science studies. This involves some simplification necessary to introduce the complexities of social realism that are less familiar in the field.

Origins of the knowledge problem in education

The knowledge problem emerged in the early 1970s within the NSOE. However, it was seen at that time more as a solution (to class differentials in education) than a 'problem' in itself. In light of evidence indicating that, despite reforms such as the wholesale provision of secondary education and more piecemeal moves to comprehensivisation and progressivism, class differentials remained unchanged, the NSOE brought knowledge into the picture by arguing that what pupils were taught affected how they learn, the extent to which they recognise their own 'voice' in education, and, hence, their relative levels of attainment. It posited a causal relationship between the organisation of knowledge and broader issues of inequality and power – the 'reproduction' theory of education. Thus, the NSOE constructed a paradigm that has been repeated in different forms up to the present day (for example, in educational feminism, in multicultural and anti-racist education, in Bourdieu's theory of cultural capital,[3] and in a variety of postmodernisms – the 'voice' has changed across the years, but not the basic 'message'). A theory about knowledge operates as a theory about the reproduction of social inequality. However, this type of approach

to knowledge has had and continues to have a set of deleterious epistemological and practical implications.

Among the most serious of these implications is a significant weakening of the concept of knowledge and a drift towards relativism. It becomes increasingly difficult to decide what to teach as opposed to what not to teach. Similarly, as Basil Bernstein observed in an early diagnosis of this condition in relation to theory and research, 'We are told and socialized into what to reject, but rarely told how to create' (1977, p. 167). The analysis of educational knowledge becomes a debunking exercise rather than a positive explication of the grounds upon which it can be claimed that some forms of knowledge are more powerful than others, that it is this knowledge which should be included in the curriculum, and that all pupils should be entitled to it.

As a result, one of the most fundamental inequalities in education is that of access to the most powerful knowledge. But to make such claims is to run the risk of being accused of academic elitism, of cultural imperialism, and of ignoring the relationship between knowledge and power – to provoke, in effect, a contemporary version of the NSOE's original critique. The challenge, then, is to be able to support such claims in a manner that is democratic and progressive. Why it is necessary to do so is because the sociological approach to knowledge that has dominated since the NSOE, despite the insights it has brought, is fundamentally flawed and those flaws have become increasingly apparent. Social realism (Young, 2008a; Maton and Moore 2010) secures a defence of knowledge in opposition to both constructionism (the dominant tradition in the sociology of education) and positivism (the position that constructionism defines itself against).

Defining the paradigm

The NSOE can be seen as the paradigm for what came to be the dominant approach to knowledge within the sociology of education. The paradigm reproduced itself through additions rather than transformations,[4] in the sense that feminists pointed out that the NSOE's focus on class neglected gender and rewrote the paradigm in terms of gender relations before others then argued that race was being ignored and rewrote the paradigm in those terms, and so forth. The problem with such 'situated' accounts is not that they are situated, because all situations reveal new knowledge, insights, and concerns and enrich intellectual pluralism, but with the 'theory' (Rata, 2012b). Theory, to be theory, must have qualities that are translatable across situations; otherwise we are limited

to a collection of incommensurable standpoints that cannot 'talk' to each other – the postmodernist position.

The logic of the paradigm detailed here collapses theory back into its origins, or, the other way around, inflates an account of origins into an 'epistemology' (standpoint theory, for example). Because this paradigm came to be represented in a succession of different forms it is necessary to define the 'generic position' represented in them. There are, as it were, changes in 'voice', but the paradigmatic 'message' is the same (Moore and Muller, 1999). This is important because each of these forms raises genuinely important and original issues, provides new bodies of data, and extends and enriches understandings within the discipline and beyond. Hence, although it is the case that both educational feminism and multicultural education are representative of the paradigm, it is not the case that to produce a critique of the underlying constructionist epistemology is to produce a critique of feminism or multiculturalism and the issues of social justice with which they engaged.

The essence of the problem is a perceived conflict between the sociology of knowledge and epistemology. To put it succinctly, if knowledge is knowledge then it cannot be 'social' (if it was, it would not be certain because it is merely relative), but if knowledge can never be anything other than social it cannot actually be 'knowledge' (because it must be relative rather than certain). The traditional epistemological line (for example, in logical positivism) was to detach knowledge from its social context by grounding it in unmediated sense-data organised by propositional logic. The traditional sociological line was to ground knowledge within the social and historical conditions of those constructing the knowledge as organised around their standpoints and interests (such as Marxist ideology analysis, social constructionism, feminist standpoint theory, postmodernism). On this basis, the relationship between epistemology and sociology is a zero-sum game – one side or the other, but not aspects of both and somewhere in the middle.

The dominant 'generic position' on knowledge in the sociology of education (social constructionism) tends to assume or assert the following basic propositions: first, the defence of knowledge in a strong form presupposes that objective knowledge is certain because it is a veridical representation within the consciousness of a detached, disembodied, disinterested observer of an external reality. On this basis, knowledge is socially and historically decontextualised and presented as absolute and universal ('foundationalism'). Knowledge understood in this way has over the years been variously characterised as

'bourgeois', 'male', 'western', 'Eurocentric', 'metropolitan' or 'positivist', 'objectivist', 'absolutist', 'scientistic' and associated in postmodernism with the 'Enlightenment Project'. It is frequently presented as 'hegemonic' discourse and accused of marginalising or subjugating other points of view such as those of the working-class, women, and non-westerners. Second, by contrast, a sociological approach to knowledge recognises that knowledge as presented above is unobtainable. All knowledge is socially constructed and inevitably reflects the historical conditions under which it is constructed. To privilege knowledge in the above form is, in reality, to privilege a particular type of knower (for example, white, male, western, middle-class). The third proposition is that more specifically, those historical conditions must be understood in terms of the particular standpoints of those constructing the knowledge and of their particular interests as defined through relations of inequality and power. On this basis, in contrast to the 'hegemonic' model of knowledge as certain and disinterested, knowledge is seen as ideological and political and as situated and embodied.

There are some initial observations to be made about the dominant position in the sociology of education as summarised above. In the first instance it offers a stark choice between epistemological foundationalism and epistemological relativism (sometimes referred to as 'the epistemological dilemma') (Alexander, 1995). Second, it presupposes that a strong model of knowledge can only be defended on foundationalist grounds implying absolutism in knowledge claims. Third, it asserts the hegemonic position of such a foundationalist position, but never supplies any evidence that such a view in fact exists in a hegemonic form (which, actually, it does not). Lastly, the contrast constructed between these two opposed models of knowledge is only a contrast between two competing theories of knowledge: social constructionism and positivist foundationalism. There is, however, a range of other ways – including realism and materialist feminism (McNay, 2008) – of approaching these issues.

The position of 'positivism' in this schema is one defined within constructionism itself and has little convincing relationship either to positivism as a philosophical movement or to contemporary mainstream scientific thought. Positivism ceased to be a significant movement some 50 years ago, at the very time that the NSOE was emerging! There are no positivists today, and there have not been any for a considerable time; as long ago as 1970, the philosopher D.W. Hamlyn (1970) felt able to state that 'Positivism has gone so far out of fashion that it is perhaps difficult to understand why anyone should ever have

supposed that it should be acceptable' (p. 60). Strangely, it was at just this moment that radical, constructionist sociologists were finding positivists behind every tree and they continue today to haunt the landscape of postmodernism.

The problem of knowledge becomes a problem because it appears to be the case that the more sociological our approach to knowledge becomes, the less knowledge is actually knowledge. Sociological accounts of knowledge drift inevitably towards relativism because they undermine any objective grounds whereby knowledge can be based in anything other than the standpoints and social interests of those producing the knowledge. The problem of knowledge in general becomes a particular problem within the sociology of education by virtue of the (apparent[5]) absence of a sociological theory of how knowledge can be both social and knowledge – a theory of the sociality of knowledge. It is this condition that social realism confronts.

Constructionism: Defining the problem

The 'problem of the problem' generates a number of intractable issues. The constructionist approach is self-undermining in that it is in itself a strong knowledge claim. It declares that 'official' knowledge is in fact no more than a representation of the standpoints and interests of dominant social groups. But to secure this claim it is necessary for there to be criteria that are in some radical manner independent of the standpoint of those making this claim. In principle, it might in fact be the case that official educational knowledge does reflect the standpoint and interests of dominant social groups, but to prove this requires standpoint independent criteria because to argue that this appears to be the case simply from some other standpoint is merely to swap one standpoint for another. The implication of this is that any truth claim can be either true or false at the same time dependent upon the standpoint of those pressing the claim. This observation is a form of the well-established logical problem of relativism: if it is true that all truth is relative, then there must be one truth that is not, namely the truth that all truth is relative, in which case it is not true that all truth is relative. Many seem happy to ignore this basic logic (as it applies to postmodernism, for instance), and also to ignore its sociological implication: that we do have procedures whereby we produce knowledge and it is precisely such procedures that are presupposed by those who deny that we have such procedures! Because we have devoted for so long so much attention to demonstrating how knowledge is not knowledge, we have lost sight of the fact

that the precondition for any such demonstration is that there is in fact knowledge.

Social realism addresses the problem of the problem of knowledge by attempting to demonstrate that rather than there being an irreconcilable division between epistemology and the sociology of knowledge, it is possible to produce a sociological model of rational objectivity. There are three immediate implications of this position: first, there are relatively objective non-positivistic criteria for differentiating between bodies of knowledge and for deciding that some are more powerful than others. But these criteria are enacted in social practices of a structured kind rather than enshrined in propositional logic. This possibility provides a framework for deciding what knowledge should be taught and to which all pupils (as citizens) are entitled. Second, the purpose of academic disciplines is to produce knowledge of this type according to their various methodologies (which is not to imply that such knowledge cannot be produced elsewhere or in non-disciplinary ways). They provide the primary source of the above in the form of school curricula. Third, both the sociology of knowledge and the sociology of education can have as an 'object' the socially organised ways in which such knowledge is systematically produced and transformed (rather than simply 'constructed' and reproduced).

The third of these points towards the alternative way in which realism is sociological about knowledge. Basically, the difference between social constructionism and social realism is that whereas constructionism is reductive and subjectivist, realism is emergentist and objectivist. The former is a type of idealism and the latter of materialism. Constructionism is reductive in the sense that it attempts to account for knowledge by tracing it back to its point of origin in unequal social relations of power. It is subjectivist in that it grounds knowledge in the experiences of those held to be producing or contesting the knowledge. Realism is emergentist in that it locates knowledge within enduring socio-cognitive networks that are extensive in time and space and relatively independent from any particular social (experiential) base. It is objectivist in that it sees such networks as modes of symbolic production realised through collective procedures for the independent evaluation of knowledge claims. This contrast should not be read in terms of the structure/agency dichotomy because realism understands structures as enabling conditions for agency rather than as constraints, and as sites of production (creativity and innovation) rather than only of reproduction (Archer, 1995). The focus in what follows will be on the logic of social realism: why 'realism' and how 'social'?

The problem of positivism

It is important to prepare the ground with a clear distinction between realism and positivism (and empiricism more generally) because aspects of the two are often confused. The generic constructionist position, through its various manifestations, is consistent in describing what it is against: 'positivism'. There is not room here to illustrate this in historical detail (see Moore (2009); for a recent example, see how MacKnight (2011) describes the 'logic of truth'), but basically 'positivism' is presented as involving the following commitments: (a) there is an externally existing reality; (b) this reality can be veridically represented in consciousness as objective knowledge; (c) by a disembodied, detached, and disinterested observer; and (d) knowledge in this form is certain and universal. This model of knowledge and the knower have been variously labelled as the Enlightenment or modernist perspective, as western or male, or even, rather surprisingly perhaps, as Marxist (Potter, 2006, pp. 135–6). The immediate problem is that no one today actually holds to such a model of knowledge! It is conventionally contrasted with a 'critical' or 'postmodern' standpoint of one kind or another that sees knowledge as historically and socially situated, as embodied and grounded in the experiential base of different social groups defined through relations of power. In one case there is one knowledge for all knowers, in the other as many knowledges as there are knowers. The latter is then held to be the 'sociological' way to approach knowledge. Some of the problems associated with this assumption have been mentioned above. Essentially, for 'positivists', so conceived, knowledge is given by the real, whereas for constructionists the real is given by knowledge – the 'social construction of reality' – and inescapably entwined with power: power-knowledge in the Foucauldian equation.

Conditions (a)–(d) earlier can be understood in terms of what Cruickshank has termed the 'logic of immediacy': '. . . positions that hold that truth is knowable with immediacy. The temporal aspect of this is that truth can be recognised "straight away": the manifest truth is immediately recognisable as such' (2003, p. 7). This refers to positivism's commitment to sense-data theory and the aspiration for knowledge to be grounded in that which is immediately given in sensory experience and open to empirical verification organised by the rules of propositional logic (logical atomism). Cruickshank goes on to observe that the philosophical logic of immediacy underpins foundationalist epistemologies, such as empiricism, especially in the guise of the Vienna Circle's logical positivism. This is true, but it also underpins what we

may refer to as truth-relativism. The reason for this is that, in making truth wholly relative to perspectives, such relativism reduces truth to perspectives and the consequence of this is that to know the norms of a community, or to know the concepts that constitute, say, a scientific perspective, or paradigm, is to know the truth. In this case 'truth' becomes a synonym for the contents of the perspective (2003, p. 7).

In these terms, the distinction between positivism and constructionism is by no means as radical as earlier constructionists and more recent postmodernists like to think.[6] Both are committed to the fundamental principle that truth is that which is given within the immediate consciousness of a knowing subject. The division between constructionists and positivists is a second-order one – a dispute over the possibilities of language and whether or not a single, 'pure', or unmediated language grounded in primary sense-data is possible. Cruickshank is not alone in making this point (for other instances, see Moore (2009)). The unitary language of description sought by positivists is fragmented by postmodernism and post-structuralism into a multiplicity of languages or 'discourses', but the basic principle – the reduction of knowledge to experience, to the knower, whether a centred unitary one or a decentred fragmented one, a contemplative or a performative one – remains the same; it is displaced rather than superseded. From a Realist reconfiguration, rather than radical alternatives, positivism and constructionism are two ends of an empiricist spectrum divided by a disagreement around the possibilities of language. What they share in common (the absence of ontology; issues of knowledge are, for both, reduced to an epistemology of the knowing subject) is more significant than how they differ. It is the model of the subject, not the model of knowledge (which is grounded in the subject), over which they disagree.

A major problem with the social constructionist account of positivism is that it too easily collapses positivism into a correspondence theory of truth: that a statement can be held to be true if it corresponds to what is in fact the case as given in an externally existing reality that the statement 'represents' or 'pictures' ('naïve realism'). The ubiquitous disembodied, detached, objective observer against which constructionists typically pit themselves is a 'correspondence theorist'. However, from the outset positivists had a major problem with the relationship between sense-data and 'external reality' – see Russell (1971), first published in 1903. We can be certain about our sense-data to the degree that they are 'ours' but also open to inter-subjective empirical verification, but not in the same way about 'things' behind the sense-data that are/might be their 'causes'. What is 'in fact' the case is not a statement about

external reality, but about that which is given in direct sensory experience. Positivism was actually far more modest, if not agnostic, towards the 'externally existing reality' than social constructionism allows: at best it is a reasonable inference; at worst a metaphysical speculation. Positivism did not ground truth in a correspondence with external reality, but in the logical ordering of sensory data (a propositional calculus). This is reflected in its rather peculiar concept of 'cause' as the constant conjuncture of events (whenever p then q) rather than in the more intuitively obvious notion of a prior or underlying 'something' or event that materially results in (causes) another 'something' or event.

The problem for the positivists was that this more natural notion of 'cause' posits theoretical or invisible entities that are in some manner between or beneath p and q and that 'cause' their relationship but are not in the same way as p and q open to empirical verification. It is for this reason that positivism, as Popper famously demonstrated, cannot serve as an adequate model of science because science functions precisely through the development of theoretical models of plausible/putative forces operating beneath the level of the empirically given within what Realists call the 'intransitive' level of the real. It can be noted in passing, given the long-standing tradition in social constructionism to mistakenly describe him as a 'positivist' that has for so long sidelined the richness of his thought, that Durkheim (1915/1995) made exactly this point in the 'Introduction' to *The Elementary Forms of Religious Life*. Though positivism has long ceased to be accepted as a viable model in the philosophy of science or epistemology, the conflation of science, or knowledge more generally, with positivism is an enduring feature of constructionism from the NSOE to contemporary postmodernisms.

Critical realism

Social realism has its philosophical roots in critical realism, associated in particular with the ideas of Roy Bhaskar (1997).[7] Philosophical critical realism is grounded in three basic principles: ontological realism, epistemological relativism, and judgemental rationality. These can be summarised as follows.

Ontological realism

Ontological realism is the commitment to the idea that there is a reality that exists independently from human experience and of which humans can create knowledge. As Collier (1994) points out, the idea that anyone

could doubt this would meet with widespread popular incredulity. But, as detailed above, it is precisely this doubt that is at the core of the constructionist critique of knowledge. This critique is rooted in a perverse attachment to a long defunct logical positivist/naïve realist model of what truth should be like, and the particular failure of positivist foundationalism is treated as a general failure of knowledge that results in a wholesale collapse into relativism.

Critical realism employs two main lines of attack on positivism and constructionism and the logic of immediacy. One is that of 'immanent critique', which demonstrates from 'within' that those positions are untenable on their own terms. The other is a 'transcendental' argument that demonstrates from 'without' that the intelligibility principle for the existence of science and human experience more generally requires an externally existing reality that is independent of human experience and is the condition for enacting judgements (below).

Critical realism makes a fundamental distinction between an intransitive realm of independently existing objects (natural and social – although 'social kinds' are not independent of human existence in the same way as 'natural kinds') as opposed to the transitive realm of humanly created knowledge about such objects. The relationship between these dimensions is 'bridged' by a further distinction between levels: that of the 'real', the 'actual', and the 'empirical'.

The level of the real comprises complex 'objects' of various types, natural and social, (generative mechanisms) that can be understood in terms of their power and liabilities. 'Power' refers to their capacity to produce various effects by virtue of what they are and 'liabilities' to what under particular conditions (that is, in interaction with other kinds) might happen to them. Generative mechanisms naturally exist in 'open systems' ('nature') where they interact in random and contingent ways, but react according to their powers and liabilities under such conditions. Because these generative mechanisms are complex objects, whether or not any or all of their powers are exercised or liabilities suffered depends upon the circumstances of interaction with other such mechanisms.

On this basis, what actually happens (outside closed systems such as chemistry laboratories or the solar system, which are either artificially or naturally insulated from external influences) is contingent on circumstances and cannot be covered by universalistic 'laws' representing the constant conjuncture of events. Science functions not by systematising conjunctures at the empirical level (assuming the conditions of closed systems), but by producing in theory models of complex objects (generative mechanisms) in terms of their powers and liabilities, and the ways

in which they might be exercised in actuality, randomly, in open systems and contingently become empirically available to human beings to be interpreted within their concurrent frames of reference (there is no metaphysical presumption that these models in some way 'picture' the things-in-themselves or capture their 'essences'). This argument represents the priority of ontology over epistemology in critical realism and defines science in terms of the systematic production of explanations of events in open systems and a concern with retrodiction (making sense of happenings in open systems) rather than prediction.

It could be said that the realm of 'the real' is given by the kinds (natural and social) of generative mechanisms constituted (and humanly imagined; Durkheim, 1915/1995) in terms of their powers and liabilities and which constitutes the potential for what could happen; the realm of 'the actual' is that of those things that actually happen in nature within the space–time parameters of open systems; and the realm of 'the empirical' is that of those happenings that happen to be experienced by human beings and understood within the historically produced frames of reference available when and where they happened.

Epistemological relativism

Epistemological relativism is the recognition that all knowledge is humanly produced and reflects the conditions under which it is produced. In this, critical realism shares things in common with social constructionism. The major point of divergence is that for critical realism this is understood in terms of emergent properties rather than through a reduction to experience and individual subjectivity. For critical realism knowledge creation is a form of production in the sense that new meanings 'emerge' from and transform existing meanings within modes of symbolic production (in the classic Marxist sense of forces of production + social relations of production) that are extensive in time and space and which have their own irreducible qualities. Knowledge-producing symbolic systems, as social kinds, have forms and generative properties displayed in a range of historically created modalities (Bernstein, 2000). Knowledge is doubly social in that it is socially and historically located (in all the ways that social constructionism has explored), but also socially grounded in relatively autonomous modes of symbolic production that have their own logics and capacities which are not simply continuous with individual experience.

As far as scientific knowledge is concerned there are two implications: that knowledge is always fallible in that it is constantly open to revision, and that it is critical because this revision occurs through the constant,

systematic questioning of existing knowledge. The degree to which fallibility is admitted and critique institutionalised and demanded is one of the most significant ways in which modes of knowledge differ. By contrast with science, or secular rationalism more generally, some traditional religious beliefs, for example, reject fallibility in favour of certainty and anathematise critique. The crucial implication of the relationship between fallibilism and critique is that what is of fundamental importance is not the content of knowledge (because it is always revisable) but the manner in which it is produced. This leads to the next principle.

Judgemental rationality

Judgemental rationality recognises that all knowledge is socially produced, but crucially that some ways in which human beings produce knowledge are more powerful than others in the sense that the knowledge so produced is more reliable by virtue of how it is produced. The principle of 'reliabilism' complements that of fallibilism. All knowledge is fallible and open to revision through critique, but how this happens enables us to assert not that some knowledge is axiomatically better than others, but that some has been arrived at in ways that allow us to be demonstratively more confident and, hence, more secure in what we choose to believe. At the core of this is the notion of judgement. The intelligibility principle for the possibility of judgement is that beliefs can be wrong. If I judge something to be the case, then I open myself to the possibility of being proved mistaken; this presupposes the possibility of something independent of my judgement (ontological realism), but to which the judgement refers as a standard. This, in turn, presupposes procedures whereby our judgements are collectively evaluated. What is at issue is not so much what we should think but the kind of things that are best to think with and how. It is at this point that the principles of critical realism begin to translate into the substantive educational concerns addressed by social realism.

The major problem for social constructionism and its logic of immediacy is that collapsing knowledge downwards into the situated experience and standpoint of knowers conflates what is known with who knows – knowledge with knowers. This results in the tendency to hyphenate knowledge claims (for example, 'western-science', 'male-theory') and generates mutually exclusive dichotomies such as male versus female, black versus white, and colonial versus indigenous and a fragmented knowledge structure based in incommensurable paradigms.

The implication is that to elevate any particular knowledge claim is to elevate those making the claim. To elevate science is to elevate westerners over the 'Others'. Forms of emergent materialism, such as those of Marx or Durkheim, and structuralism offend a deep-seated humanism in the constructionist tradition that is morally affronted by what it sees as reification and determinism in such approaches – a devaluing of 'the subject' and agency. This is an old and complex debate and I do not intend to engage with it here beyond repeating the earlier point that for Realists structures are enabling conditions, not merely constraints: they constitute the realm of the possible rather than merely reproducing the given. Paradoxically, for social constructionist humanism, it is precisely emergence and the detachment of knowledge from any particular situation and knower that makes knowledge most fully 'human'. What is really important about the so-called Western science is not how it might be western, but rather all the ways in which it is not and instead works for and can come to serve everyone. If science were merely western, it would not be science. Modern secular rationalism did not emerge, like Athena, fully formed from the sea of western civilisation – it erupted in the early modern period as a centuries long – and still ongoing (Gellner, 1992) – crisis for the West and its traditions, as it is now for other traditions. Its logic is dislocating rather than situating, as much so for 'the West' as for 'Others'.

Social realism

Social realism in the sociology of education engages with the implications of the above in the following ways:

(1) It endorses the strong defence of knowledge grounded in ontological realism and the way in which that resolves the tension between and contradictions within positivism and constructionism and the 'logic of immediacy'.
(2) It recognises that knowledge is socially produced under given historical conditions but adopts, contra constructionism, an emergentist rather than a reductive view of this ('emergent materialism'). Knowledge is produced within forms of sociality that are enduring and extensive in time and space and have their own distinctive structures, powers, and limitations (and, hence, intrinsic principles of relative autonomy). Three issues follow from this: theoretically conceptualising these forms as modalities of symbolic production; understanding their historical conditions of formation; and

investigating their distributions and effects within particular societies, especially in terms of social inequalities.

(3) At the level of educational ideologies, social realism provides critiques of and an alternative to three major competing positions: postmodernist varieties of progressivism, technical rationalism, and conservative traditionalism. Social realism provides a democratic defence of a knowledge-based curriculum against the relativism of the first of these, the instrumentalism of the second, and the elitism of the third.

(4) Because social realism begins from a strong defence of knowledge and proposes this as the ground for a model of the curriculum, the key educational policy issue is that of ensuring access to such a curriculum and this translates into issues of pedagogy and teacher training.

The principle of judgemental rationality entails two things for the classroom: that there is a body of established powerful knowledge (as opposed simply to the knowledge of the powerful) to be taught and that, because this knowledge is powerful because of the way in which it has been produced, the principles that underlie those forms of production themselves need to be taught by their being embedded within pedagogic practice. The fruitfulness of social realism for addressing substantive concerns in the sociology of education can be suggested by expanding upon point 4 above: the issues of curriculum and pedagogy.

One of the most deeply entrenched divisions within educational debate is that between 'progressive', child-centred approaches and 'traditional', knowledge-centred approaches. From the time of the NSOE, the sociology of education has tended to align itself with varieties of progressivism. This is consistent with the reductive character of constructionist analyses – if, axiomatically, 'official' school knowledge reflects the standpoint of dominant social groups, then, logically, the opposite model ('progressive' education) reflects the interests of the dominated. These assumptions verge upon being the automatic default settings of the field such that any defence of a knowledge-centred approach is treated as a form of 'traditionalism' and academic elitism. However, traditionalists and social realists come at the question of knowledge from diametrically opposed directions.

For traditionalists, the knowledge-based curriculum is a body of received wisdom inherited from the past defined by ineffable, eternal qualities and beyond question. For social realism, knowledge

is historically produced through collective procedures within which critique is a constitutive principle. Whereas traditionalists assume a 'preservationist' attitude to knowledge, social realism assumes a 'transformationalist' one. The former is declinist (the best has already been) and the latter emancipatory (the best might yet to be). The Realist principles outlined above do not specify the content of a curriculum, but rather the kind of knowledge it should include (the principle of reliabilism). Curriculum content should always be contested and open to debate from a number of directions (the principle of fallibilism) and guided by the view that what is really important is the way in which knowledge is produced and knowledge claims judged.

Conclusion

It is important to conclude by being clear about what is not being said here. Although social realism entails a critique of constructionist epistemology, it is not the case that it is indifferent to or rejects in principle key concerns in the constructionist tradition, especially as they relate to social justice issues. Nor is it the case that social realism ignores the issue of power. Social realism does not seek to fully displace constructionism, but rather to complete its project by securing a strong epistemological foundation for its claims about the ways in which the construction of knowledge is inevitably entwined with other social forces – relations of inequality and power. The internal contradiction of constructionism is that, by virtue of its lack of a realist ontology, it continually erases the grounds for its own claims. Social realism makes visible an object that is imminent within constructionism itself: the 'blind spot' that its logic obscures. The broader argument is that a social realist critique of the constructionist epistemology with which various movements concerned with social justice within and through education have been associated strengthens their positions and furthers their social and political programmes.

Social realism is the appropriate framework for a socially progressive sociology of education because it secures, contra postmodern and earlier constructionist relativisms, strong justice claims with strong rather than weak knowledge claims. What are the implications of the constructionist 'message' for the 'voices' that it variously advocates? Social realism is not contesting the voices, but critiquing the constructionist message in support of the aspirations of the voices. The powerful are so not because they can arbitrarily impose their knowledge as 'powerful knowledge', but because they enjoy privileged access to the knowledge

that is powerful in its own right. Basil Bernstein expressed the key issue in terms of 'enhancement': 'Enhancement is not simply the right to be more personally, more intellectually, more socially, more materially, it is the right to the means of critical understandings and to new possibilities' (Bernstein, 2000, p. xx). This is why knowledge is important. It is at this point that epistemological issues merge into social, educational, and justice issues.

The precondition for 'enhancement' is a recognition that there actually is powerful knowledge as opposed to simply the knowledge of the powerful, and the job of sociology is to theorise and research its forms and modalities and the forces shaping its social distribution and modes of pedagogic access and their effects. The sociology of education cannot productively engage with current debates about knowledge in education solely in terms of negative 'critical' deconstruction (tales of the knowledge of the powerful): it requires a positive account of powerful knowledge for all.

Notes

1. Archie Lush was a Welsh miner, educationalist, and socialist. http://hwj.oxfordjournals.org/content/2/1/183.abstract.
2. Social realism in the sociology of education emerged in the late 1990s out of discussions between John Beck, Karl Maton, Rob Moore, Johan Muller, and Michael F.D. Young. Muller's time in Cambridge as a visiting scholar resulted in a paper (Moore and Muller, 1999) to which Young (2008a) responded. At the same time, Maton (2000) had been working on his 'languages of legitimation' paper and Moore and Maton (2001) on the 'epistemic device'. Further papers followed both individually authored and in various combinations, some of which have been collected in Maton and Moore (2010) following a 2008 international colloquium at Homerton College, Cambridge, that brought together a 'second generation' of scholars and researchers taking up these ideas. This paper draws inter alia on discussions over the years with my colleagues and friends and on their insights to which I cannot do proper justice here – see, in particular, Beck (2008a), Maton (2011b), Muller (2000), Rata (2012b), Wheelahan (2010), Young (2008a), and also Moore (2009). I do not presume to speak on their behalf, but hope they will be satisfied with my account and that those new to these ideas will find this chapter a useful introduction. I am especially grateful, here, to Brian Barrett and Karl Maton.
3. Bourdieu is not a 'constructionist' and, indeed, criticises constructionism, but his relational field theory that reduces knowledge relations to a homological transubstantiation of the economic field and on the basis of the principle of the 'arbitrary' mobilises concepts such as 'cultural capital', 'misrecognition', and 'symbolic violence', in the final analysis, produces the same epistemic result.

4. Constituting what Bernstein (2000) termed a 'horizontal knowledge structure with a weak grammar'. Social realism draws upon aspects of Bernstein's later ideas on knowledge structures that were an early catalyst.
5. 'Apparent' because critical realism has been an established position in the philosophy of science for some time. Bhaskar's *Realist Philosophy of Science* was first published in 1975 and Benton's *Philosophical Foundations of the Three Sociologies* in 1977. Both were students of the Realist philosopher of science Rom Harré at Oxford. It is of interest that the sociology of education has shown little interest in this approach to the knowledge debate, opting instead for 'soft' forms of relativist constructionism in its original American form and then later Parisian postmodernist/post-structuralist versions.
6. In their own time, the positivists conceived of their project as radical and emancipatory and as challenging received arbitrary authority and were, in the case of the Vienna Circle, like those of the Frankfurt School, subject to Nazi persecution and murder. Their depiction as reactionary social order theorists by radical constructionists in the 1960s is a calumny. The members of the Vienna Circle, like Russell in Britain, were champions of the Left and believed that by grounding knowledge in immediate material experience they were producing a philosophy of 'workers' knowledge' as much as one of science.
7. Excellent introductions to critical realism can be found in Collier (1994), Sayer (2000), and Cruickshank (2003).

3

On the Powers of Powerful Knowledge

Michael Young and Johan Muller

Introduction: Knowledge in question

The primary aim of this chapter is to make a positive case for the idea of 'powerful knowledge' (Young, 2009; 2013) as a sociological concept and as a curriculum principle. We seek to clarify its conceptual bases and to make its meaning, and the arguments it implies, less ambiguous and less open to misunderstanding. This will enable us to suggest some of the research and policy options that it opens up.

It is an appropriate time for such a task as the concept has been called on in a growing number of academic, practitioner, and policy contexts in England and elsewhere. In academic contexts it has become the subject of sometimes-acrimonious debate. Among philosophers, it has been discussed unfavourably by some (White, 2012) and, though less directly, favourably by others (Cigman, 2012). The concept has also been favourably drawn on by researchers in the teaching of history and geography (Counsell, 2011; Firth, 2011; Lambert, 2011), among teachers in a number of broader-based fora and in academic contexts in a number of countries outside the United Kingdom – in particular New Zealand, Australia, South Africa, and Portugal. In policy contexts, it has been acknowledged as influential by the Expert Panel of the English *National Curriculum Review* (Department for Education, 2011) and by the South African Review Task Team of the *National Curriculum Statement* (Department of Basic Education, 2009). Finally, John Beck, so far the only sociologist to comment directly on the concept, raises a number of related issues in Chapter 4 of this volume that we only touch upon here.

We begin this chapter by making some brief comments about the specific origins of the contemporary usage of the concept from our

perspective. We make this proviso because the two words 'power' and 'knowledge' are too general, too evocative, and open to too many diverse meanings for them not to have been used together in other ways and at other times. The concept, as recently used, has its origins in the history of our discipline – the sociology of education – and in changes in the way some of those in the discipline have approached the curriculum and the question of knowledge. However, it is not, we shall argue, a narrowly discipline-specific concept. It is best understood as derived from what, despite its older roots, is a relatively new way of thinking sociologically about knowledge (Collins, 1998) and stands in contrast to more traditional sociologies of knowledge which have tended to associate the sociality of knowledge with bias. More specifically, it has focused on the social basis of academic disciplines, subjects and the curriculum itself, that are found in schools, vocational and technical colleges, as well as universities and programmes of professional education (see, for example, Moore, 2007; Wheelahan, 2007; Young, 2008b; Muller, 2009; Wheelahan, 2010; Case, 2011; Beck, 2012b; Rata, 2012b). It emphasises how the sociality of knowledge underpins its emergent 'objective' character and thus avoids slipping into the relativism that has plagued many other sociological approaches to knowledge.

The idea of 'powerful knowledge' owes a primary debt to the French sociologist Emile Durkheim, probably the first sociologist of education, and his assumption that we are not only 'social' beings but also – and which is for Durkheim the same thing – 'differentiating' and 'classifying' beings. In particular, we not only differentiate our knowledge from the world of which we have experience, but differentiate within knowledge as well. That knowledge is social for Durkheim meant that it takes its meanings from us as social beings in identifiable and challengeable ways, but in ways that are quite unlike those associated with our everyday experience and opinions.

We also differentiate knowledge from our opinions and experience because it explicitly recognises, even if we do not always know how or why, a relationship to a reality that is independent of us. Quantum theory is the most reliable theory of the physical world there has ever been and in that sense it is as near as we have got to physical reality. At the same time physicists do not know quite why it gives us such reliable predictions. Physics, like any powerful knowledge, presupposes that the natural world is real and that current knowledge is the nearest we get to what that reality is. At the same time, quantum theory is probably the knowledge most at odds with our everyday understanding: it tells us that the particles that constitute matter are in many places at

the same time and that matter takes the form of both a particle and a wave.

We differentiate knowledge because in important ways not all knowledge is the same. We differentiate knowledge according to the best way we have to date of representing the differentiation of reality. We intuitively feel that some knowledges are 'better' – epistemically, morally, or aesthetically – than others, and that they represent criteria about what is true, what is beautiful, and how we should treat our fellow human beings and the non-human world that are more universal than others. If we accept the fundamental human rights principle that human beings should be treated equally, it follows that any curriculum should be based on an entitlement to this knowledge.

The second lesson we derive from Durkheim is that like all human progress, better ways of knowing are always associated with specialisation, with the intellectual division of labour, and its relationship with the social division of work and occupations. Powerful knowledge therefore is specialised knowledge, whether it is quantum theory or Tolstoy's novels, although not all specialised knowledge is powerful knowledge in the sense we are using power, as examples like scientology indicate. But such examples are easy, and it is to deal with more difficult cases that we need as clear and rigorous a set of criteria as possible with which to decide which knowledge deserves a place in the curriculum on the basis of this argument.

Our argument is not that specialised knowledge has a higher *cultural* value than non-specialised knowledge. Specialisation is not a basis for denying respect or value to non-specialist commonsense knowledge that people draw on in their daily lives. Specialist knowledge is 'powerless' in enabling someone to find their way about a house or city with which they are unfamiliar or helping a friend who has lost a child. The difference between specialised and non-specialised knowledge is a difference of purpose and, as we will argue, a difference of structure; it is not a difference of value, except in relation to those purposes. A community healer's 'knowledge' has human value as part of its wider culture, but for the purpose of treating HIV/AIDS, it is hardly dependable.

Third, to produce new specialised knowledge requires specialist institutions like universities and research institutes. To transmit such knowledge to the next generation also requires specialist institutions. These may be universities, colleges, or schools. Specialised knowledge is not acquired or produced informally as part of people's everyday lives, hence the crucial link between the entitlement to 'powerful knowledge', the curriculum, and the universal right to schooling. Only if you do not

think there is 'better knowledge' that all have a right to, would the principle of social justice reject the entitlement to specialised powerful knowledge through the curriculum.

Why then is there opposition to the idea of powerful knowledge as a curriculum principle? Let us start with the word 'powerful' and its strong association with the idea of 'power of someone over something or someone'. This takes us directly to one objection to powerful knowledge; it can be seen as fundamentally undemocratic, in two senses. In the first sense, powerful knowledge, as we have described it, is never distributed to all in an egalitarian manner. This is itself a consequence of specialisation; not everyone can be equally specialised in all things, even though everyone can, at least in principle, be offered access to the basic powerful knowledge deemed critical for responsible citizenship in a society. Powerful knowledge is not only distributed unequally, but those who tend to get it are generally those already privileged – 'in power' in this sense. This has led in turn to a conflation of the two senses of power, a conflation that is not only a category mistake but also one that has had tragic consequences. The 'Lysenko affair' in the Soviet Union, when Stalin ordered the yield of crops to be improved, is one such example (Lecourt, 1977; Young, 2008a). Another is the 'Mbeki affair', which refers to the South African state's refusal to distribute antiretroviral medication to AIDS sufferers on the grounds that the then President Mbeki had decided that it was 'poison' (Weinel, 2007).

This argument is supported by the specific way in which science, technology, engineering, and mathematics (STEM) subjects have come to be seen by governments as compulsory for a curriculum based on powerful knowledge, even though they may not refer to the concept itself. There is no question that STEM subjects provide the most successful ways of transforming, predicting, and controlling aspects of the material world, even if they do not always predict the unintended consequences of such transformations. This explains the increasing emphasis put on STEM subjects by governments at the expense of subjects that do not seem to offer as much in terms of control over either the physical or the human environment.

Are STEM subjects then the only exemplars of powerful knowledge? Perhaps to avoid this conclusion, some philosophers argue that schools should not make knowledge acquisition their primary goal but should treat schools more as families, cities, or communities – that is, with the goal of maximising human well-being (White, 2012; Reiss and White, 2013). Only if knowledge, whether from the sciences or humanities, contributes to human well-being, they argue, should it be included in

the curriculum. Plausible as this seems, the supporters of well-being or happiness rather than knowledge as a curriculum goal end up with an instrumental view which polarises knowledge and well-being and denies the idea that knowledge may have intrinsic worth; it assumes that somehow well-being can be separated from the mastery of knowledge (Cigman, 2012).

Is there a broader definition of power than that associated with STEM subjects? A historical viewpoint is instructive. The STEM subjects are relative newcomers to the canon and the curriculum in universities and schools. After the theological domination of the universities began to wane from the late Middle Ages in Europe, it was the humanities as expressions of elite culture that dominated the school and university curriculum, culminating in the Arnoldian definition of liberal education as involving 'the best which has been thought and said'. This expressed the humanitarian ideal of the cultivated citizen in the nineteenth century and was followed by similar ideas expressed by T.S. Eliot and F.R. Leavis. However, the balance had already begun to shift away from the humanities to the sciences after the beginning of the Scientific Revolution in the eighteenth century when the maturing sciences broke free from speculative (Aristotelian) philosophy and 'trial and error tinkering' as the main way to establish bodies of knowledge with conceptual and theoretical depth and empirical warrant (Collins, 1998).

There are two ways of seeing this shift towards STEM-based powerful knowledge from the 'worthwhile' knowledge of the humanists – a contemporary parallel of the earlier shift from trivium to that of the quadrivium (Durkheim, 1938/1977; Bernstein, 2000; Muller, 2009). One is as a form of democratisation of the curriculum. If STEM subjects are the nearest we can get to universal knowledge (for example, physics is the same everywhere), it could be argued that they are in principle 'democratic' in that they do not rest on the cultural assumptions of any particular group but only on the reliability and objectivity of their concepts and methods. By contrast, the humanities rely largely on traditions. To put it another way, the humanities represent the cultural 'knowledge of the powerful' (Young, 2008b) in a world where such knowledge compares less and less favourably, on universal criteria, with STEM subjects. It is easy to see how, by raising the very question of specialisation and powerful knowledge, one can end up with a view of non-STEM subjects as less than powerful, and hence less and less deserving of space in the contemporary curriculum and less worthy of support from public funds.

We will counter this view later in this chapter. In this introduction, we have set out to argue that there are three distinctions essential to an understanding of what we have referred to as 'powerful knowledge' and why it might be a useful concept for the purposes we set out at the beginning. The three distinctions are cumulative; that is, each depends on the one(s) prior to it. They are

(1) the distinction between 'knowledge of the powerful' and 'powerful knowledge';
(2) the distinction between non-specialised knowledge and specialised knowledge; and
(3) the distinction between specialised powerful knowledge and specialised less powerful knowledge.

We have touched on all three in this introduction. The first distinction reminds us of the difference between two questions we might ask about knowledge and the curriculum: who decides what counts as knowledge and why? And what can any form of knowledge do for those who have access to it (Young, 2009)? Although, in its initial formulation, and as Beck makes clear in Chapter 4, 'powerful knowledge' and 'knowledge of the powerful' were presented as a dyad, it is the former concept that has raised the ire of the philosopher John White (2012) and been picked up in curriculum as well as sociological debates. In what follows, therefore, we will concentrate on the latter two distinctions, examining more closely the possible sociological grounds for distinguishing first between knowledge proper and other forms of belief; and second, between possible grounds for distinguishing between the degrees and types of power associated with different forms of specialised knowledge. In this way we hope to focus more and more directly on the title of our chapter – the power (and powers) of powerful knowledge.

Two exemplary theorists of specialised knowledge: Durkheim and Vygotsky

There are two exemplary accounts of why it is important, especially for those directly involved in education, to draw a distinction between kinds of knowledge, and why this distinction is crucial to distinguishing between specialised forms of knowledge and the other kind of knowledge that we all make use of in our daily lives. They approach the problem in different ways, but each succeeds in establishing a socio-epistemic rationale for specialised knowledge.

Emile Durkheim (1858–1917)

The importance that Durkheim gave to differentiating between knowledge and experience can be traced back to his criticisms of Kant in his doctoral thesis, which later became his first book *The Division of Labour in Society* (Durkheim, 1893/1993). He developed his alternative to what he saw as Kant's 'transcendentalism' with his concepts 'sacred' and 'profane' that arose from his research into the religions of primitive societies in *The Elementary Forms of Religious Life* (Durkheim, 1915/1995) published towards the end of his life. Durkheim initially used the sacred/profane distinction to describe the separation of religion and everyday life that he found in the societies he studied. He noticed these two quite distinct ways of thinking and forms of social organisation discussed in the ethnographies of time. Furthermore, as he was looking for the most general characteristics of all societies, the distinction became, for him, a basic social and conceptual form of differentiation at the heart of all societies, even those like the France of his time that had become largely secularised. He saw the difference as referring to two systems of symbolic meaning and argued that in their initial attention to the 'afterlife' and the 'problems of survival in everyday life' they were the precursor of the later differentiation between 'theory' and 'practice' that became the basis for the development of science and all forms of intellectual speculation in modern societies. For this reason he referred to the examples of the sacred that he found in the religions of primitive societies as 'proto-sciences'.

Thus, Durkheim argued that the conceptual and social differentiation of the everyday world of survival (the profane) from the totemic systems which allowed people in primitive societies to speculate about the afterlife (the sacred) became the social basis of science and other forms of knowledge that could be developed free from the exigencies of everyday contexts and problems. Without this separation, he argued, no society as we know it, and no social progress, would have been possible. In contemporary terms, his 'profane' and 'sacred' categories provided the social basis for separating practical and everyday problems from the theoretical/intellectual/conceptual problems that historically became secularised to include science and other forms of intellectual activity. Hence Durkheim offers an account of the specialisation not only of occupations but also of knowledge itself. It is of course very different from that offered by Marx. Whereas for Marx philosophy should become a philosophy of praxis or action, for Durkheim the knowledge that we need as a basis for understanding the world, and therefore the possibility of changing it, is separate from and prior to the practical

activities people are involved in every day. Given that Marx relied on the practical business activities of his friend Engels to give him time for his theoretical activities in writing *Capital*, it could be argued that, in this respect at least, Durkheim had the better theory!

What Durkheim offers us is a sociological account of the development of knowledge and how it progresses. The conditions for knowledge to be reliable have to be a priori not a posteriori to its development. For Durkheim, to rely on usage, or in modern terms 'whether something works', opens the door to relativism. After all, what happens if an idea turns out 'not to work'? We do not know why and we have no principles for envisaging alternatives. In *Pragmatism and Sociology* (Durkheim, 1955/1983), Durkheim's target was the American pragmatist William James (1970) and to a lesser extent the young John Dewey (1908) who much influenced the leading French philosopher of the time, Henri Bergson. In some ways the early pragmatists were not so different from today's constructivists; their claim was that something was true 'if it fitted with experience' or 'was useful'. He saw these ideas as undermining the conditions for the trust in, and the growth of, science and consequently the possibilities of a fairer society.

There are two strands of Durkheim's work that are important for our argument about 'powerful knowledge'. The first arises from his criticism of Kant's idea that we rely on knowledge that is a priori. This meant for Kant that the foundation of knowledge was either 'in the mind' or in some transcendental realm. For Durkheim the only solid foundations for knowledge were those rooted in reality and for him reality was social. The second issue that Durkheim focused on was specialisation both in the occupational structure and in the growth of knowledge – both as aspects of changes in the division of labour. This raised the question that was at the heart of his sociology and beyond the scope of this chapter: how do societies based on specialisation hold together and not fragment? In his later works he began to explore possible solutions through the role of education and the growth of professions as 'mediators' of specialised knowledge.

Lev Vygotsky (1896–1934)

Vygotsky's short career began shortly after Durkheim died, in 1917 (at the beginning of the Soviet Revolution) with the publication of his essay on Shakespeare's *Hamlet* and his critique of the dominance of behaviourism in the psychology of his time. However, he soon began to focus on the problems facing teachers in the new society in which

the autocratic culture of Tsarism was still dominant, where few teachers were trained, and when schools for all were only just being established. The idea of specialisation or the differentiation of knowledge from experience arose from his theory of human development as a cultural process and his belief that all people had a right to, and a potential for, developing higher order thinking that they would not have access to except through attending school.

Like Durkheim, Vygotsky relied on a binary distinction although not in the way it has often been used by psychologists (see Derry, 2008). His distinction was between two kinds of concepts – theoretical (or scientific) and everyday (or common sense). As concepts, they have some remarkable similarities to Durkheim's 'sacred' and 'profane' although Vygotsky gave them a very different significance. The task of the curriculum, and schooling more generally, for Vygotsky, was to provide students with access to theoretical concepts in all their different forms from history and literature to the sciences and mathematics. Furthermore, he saw that access to higher order concepts was a complex two-way pedagogic process. Initially, the learner's everyday concepts are extended and transformed by pedagogy through engaging with the theoretical concepts of the curriculum. The process is then reversed: learners draw on their newly acquired theoretical concepts to re-engage with and transform their everyday concepts. Differentiating theoretical knowledge from experience was therefore central to his concept of pedagogy in ways barely touched on by Durkheim.

These two thinkers, despite their limitations, help us to establish the distinction between specialised and non-specialised forms of knowledge as a basis for the curriculum (from Durkheim) and pedagogy (from Vygotsky). We now turn to an analysis of some properties of specialised knowledge. It will soon become evident that specialised knowledge takes various forms.

Some properties of specialised knowledge

In an earlier paper, one of us (Young, 2009) drew from Rob Moore (2007; see also Chapter 2 in this volume) four principal properties of what in this chapter we are referring to as 'powerful knowledge'. It will be evident that different disciplines display these properties in differing respects. Nevertheless, in each of them, specialised knowledge differs in a significant way from what we have called non-specialised knowledge (for example, topical and everyday problems and themes).

Specialised knowledge is systematically revisable

In order for revisions to take place in a systematic and accountable way, there has to be a robust and generally agreed-upon way to distinguish the best proposition from other likely contenders. Disciplinary fields or traditions develop criteria over time which allow their disciplinary community to arrive, with a greater or lesser degree of consensus, at a judgement of this 'bestness', or the nearest we have to truth at any time. Even disciplinary communities that are characterised by sharp disagreements about the criteria for judging 'bestness' can still usually judge innovations in their disciplines with a considerable degree of agreement (Muller, 2010). This is a mark of all specialised forms of knowledge.

Different criteria of 'bestness' have been differentially influential over the ages. The criterion we normally take as dominant today is the epistemic tradition of 'bestness' associated with explanations in the natural sciences. Since Popper and Lakatos (both in Lakatos and Musgrave, 1970), epistemic 'bestness' distinguishes truth from non-truth in a revisable, non-absolute manner. Two other traditions have, however, been dominant in their turn, and continue to operate in the contemporary academy. The first, and the first that was historically hegemonic in the academy, was the moral or religious tradition of revealed truth. In the ancient European universities Aristotelian philosophy cohabited and prospered alongside theology. But theology was taken as the undisputed key to the intelligibility of man and the universe, hence the priority of the trivium (the disciplines of the mind and the spirit – the nascent humanities) over the quadrivium (the nascent sciences of the natural world) (Durkheim, 1938/1977). More recent although certainly less hegemonic versions of this tradition are found in Newman's famous statement on universities (1996) and in MacIntyre's recent writings (1981).

In the Middle Ages, at least in Europe, theology was gradually humanised and secularised, and an aesthetic humanism came to rule the criteria for 'bestness'. Only with the Scientific Revolution, from the seventeenth century onwards, did epistemic criteria begin to trump ethical and aesthetic criteria and a regulatory concept of truth came to replace an absolutist concept based on revelation. The principal ethical and aesthetic disciplines are of course an integral part of the contemporary academy, but seen through an epistemic lens, they have come under attack for not meeting two key epistemic virtues: first, they do not constitute what Turner (2011) following Collingwood (1993) calls 'compulsive proof'; and, second, even in terms of their own criteria

of 'bestness', ethical or aesthetic judgements do not have the same agreement and reliability as epistemic judgements.

We will return to interrogate these charges more closely later in the chapter. We would like to make two points to conclude this section. First, on the primary charge that the humanities and social sciences do not satisfactorily fulfil natural scientific criteria of epistemic 'bestness', we will argue that it is based on a category mistake. Irreducible sets of robustness criteria – epistemic, ethical, and aesthetic – have always contested for dominance in the academy as we saw earlier. Each has had its day of dominance. This should not mean that their natural disciplinary carriers should fall from favour simply because one set dominates at any given historical moment. This is to throw the baby out with the bathwater, which is to say it risks evicting certain forms of powerful knowledge from consideration simply because they do not conform to the currently dominant definition of criterial robustness.

Specialised knowledge is emergent

This means two things. One is that specialised knowledge is produced by social conditions and contexts but cannot be reduced to them. The originating contexts may leave their mark on the knowledge; what kind of a mark and how significant the mark can be disputed. However, the value of the knowledge is *independent* of these original contexts and their agents. If it is not, if knowledge remains 'contextual', then specialisation and therefore the reliability and (and in the sense we have used the term up to now) the 'power' of the knowledge will in a determinable sense remain limited. The human and social sciences are in a certain sense more 'contextual' than the natural sciences. But even here there is 'emergence' from context such that social knowledge, in order to become knowledge, must meet the criterial rules for acceptability of the discipline concerned. Even if these rules or norms are contextually sensitive, they are themselves not contextual, or else they will not be able to function as disciplinary norms. It is then these social norms, not the particularities of the context or the interests or peculiarities of the agents, that govern the judgement of knowledge as both specialised and reliable (Weber in Whimster, 2003).

There is a second meaning of 'emergence' that has a particular significance for the social sciences, which was first articulated by Durkheim. Although social events such as crowds, strikes, riots, and institutions are constituted by the actions of individuals, Durkheim argued that such events have a 'social' reality that we can have knowledge of that is not reducible to the actions of individuals. This was the burden of

Durkheim's argument in his famous study of that most individual of acts, suicide.

There is a position in the philosophy of the human and social sciences which argues that no knowledge, even natural scientific knowledge, can emerge as fully independent from its context, and that all knowledge is in some sense contextual, reducible to its context, and the agents of its production (for example, Haslanger, 2008). This is an argument *against* the distinction between specialised and non-specialised knowledge that we have drawn on. We would just note that the sense in which knowledge might be claimed to be 'contextual' in physics has a very precise, limited, and measurable meaning which hardly warrants the description 'contextual' and is very different from the meaning of the same word when it is applied to knowledge in the social or human sciences. We can therefore disregard this claim and focus on the degree of 'contextuality' of concepts in the social sciences.

Specialised knowledge is real

It is about something other than itself about which it says something in a robustly reliable way (see the revisability criterion earlier). Ever since the Scientific Revolution, the test of this reality has been whether 'the world' answers to knowledge claims. However, all too often this is taken to mean that all specialised knowledge is knowledge about natural kinds – that is, knowledge about nature. From the writing of Giambattista Vico in the sixteenth century, through the German *methodenstreit* debates the argument of some about the human and social sciences has been that they represent knowledge about cultural or social kinds (phenomena), not natural kinds (phenomena). The debate has revolved about whether knowledge about cultural kinds can indeed be emergent – separable from context – or whether it can only become reflexively – that is, partly – distanced from it (Bourdieu, 2004). The debate is not settled. Conceding that the human and social sciences are about cultural kinds, however, does not mean that that they cannot be objective, nor that the worlds that they provide an account of are not real.

Specialised knowledge is material and social

All specialised knowledge is produced in particular socio-epistemic formations. These have traditionally taken the form of disciplines which are located mostly, but not only, in universities, with particular rules of formation or, as Durkheim would express it, with their own internal rules of solidarity, hierarchy, and truth norms. Disciplines differ in

terms of their internal material cultures (their 'cultural styles' in Becher's (1994) terms). It is this material culture that holds in place the criterial or disciplinary norms (Becher's 'cognitive styles') constitutive of specialised knowledge.

From the above analysis an argument has begun to emerge about different forms of specialised knowledge, and hence of different forms of powerful knowledge. Nevertheless, there is one line of argument from the above that could lead to the conclusion that some forms of specialised knowledge are intrinsically less powerful than other forms, and hence may be less deserving of curricular inclusion. We take this argument very seriously and present it in the section that follows, before we go on to indicate its limits and ways in which powerful knowledge can be more broadly and inclusively considered.

Theoretical progression and empirical confirmation as criteria for powerful knowledge: The view from 'Bleak House'

The strongest post-Durkheimian account in the sociology of knowledge is that of Basil Bernstein (2000), and much of the ongoing work in the sociology of education derives directly or indirectly from this quarter. This work attempts to flesh out the variations of specialised knowledge and their implications for curricular transmission (see Hoadley and Muller, 2010, for a recent review). There are two principal criteria for differentiating forms of specialised knowledge that can be drawn from Bernstein's work.

Differences in the internal relations of the knowledge

This criterion describes two typical ways in which the internal relations of the knowledge – the body of theory or groups of concepts and methods derived from them – hang together. The first is that they build *cumulatively and progressively*, with earlier formulations being subsumed by later formulations. Bernstein called this form a *hierarchical* knowledge structure, in terms of which different knowledge structures and their bodies of theory differ in terms of their degrees of *verticality* (Muller, 2007). This clearly describes the family of the natural sciences and in a slightly different way is expressed more broadly by one of Vygotsky's successors, V.V. Davydov (see Gamble, 2011; Young, 2012a).

The second typical form is that the internal relations – theories and relations between sets of concepts – accrue not by one subsuming the other, but by the *addition of parallel theories* (languages, or sets of

concepts), or in Bernstein's terms, *horizontally*. These parallel languages (bearing in mind that variants like historical narrative also belong here) coexist uncomfortably but necessarily, because the unavoidable context-boundedness of their concepts limits inter-translatability and hence their epistemic guarantees. This clearly describes many of the social sciences and, somewhat more ambiguously and in some cases in different ways, the humanities.

It is not hard to see why the more subsumptive theoretical disciplines are regarded as powerful. Setting aside the power of their utilitarian applications for the moment – certainly not an inconsiderable power – Weber thought this was the defining feature of modernity. He argued that those theoretical edifices which rested upon a deep base of accepted knowledge have a projective capacity that augments the capacity of scientists to imagine the previously unimaginable, to think the previously un-thought (see in Whimster, 2003). This is the power of theory in its non-utilitarian aspect, which is not to say that in some cases, such imaginative thinking does not develop practical uses. Yet the question we pose below will be whether theories that do not take this subsumptive or vertical form cannot also have imaginative power, and provide the capacity for thinking the un-thought, albeit in very different ways and perhaps of the kind associated with great art in all its forms (Rosen, 2012).

The idea of verticality as a descriptor of knowledge for the curriculum has led to fruitful investigations which have been able to show that curricular subjects with different degrees of verticality require specific kinds of curricular sequencing and pacing to optimise their pedagogic transmission for all learners, but especially those from poor and less privileged households (Reeves and Muller 2005, Hoadley, 2011).

Nevertheless, there are assumptions embedded in the criterion of verticality that bear closer scrutiny. The first is that Bernstein explicitly distinguished between two distinct knowledge *structures* of vertical (that is, specialised) discourse: hierarchical and horizontal. He is not further explicit about why he does this, but he can be read to be saying that these forms of discourse are not reducible to one another; in other words they are in principle formally distinct. Tantalisingly, he never spelt out what distinguished them, beyond the distinctions already made above. If this reading of Bernstein has merit, and we will argue below that it has, then the nominalisation of *verticality* could lead to the conclusion that all knowledge structure, hierarchical or horizontal, can be ranked in terms of their degree of verticality, leading unwittingly to a reductive reading of kinds of knowledge structure, and ineluctably to a view of the

horizontal family of knowledge structures as deficit hierarchical knowledges. It is this construal that leads to what we term the Bleak House view. We will return to a potentially non-reductive reading of Bernstein below.

Differences in the external relations of the knowledge

This criterion describes a capacity of the theory to describe, stably and reliably, something other than itself – an aspect of the natural or social world. Bernstein referred to knowledge forms as having strong or weak grammars, and once again, the nominalisation of *grammaticality* (Muller, 2007) can be read to suggest that all knowledges have either strong or weak grammars. A more nuanced reading of Bernstein will show that he meant 'grammar' to refer only to horizontal knowledge structures (Bernstein, 2000, p. 168). Hierarchical knowledge structures do not have 'grammars' separate from their theories, at least not their accepted theories. What is subsumed in a hierarchical knowledge structure is a set of propositions governing the precise description of a range of phenomena. There can be no degrees of grammaticality here; either the proposition is or is not disconfirmed. Of course these propositions can be revised, but they will be revised from a relatively stable base of accepted propositions, and they will not be revised until an equally or more precise proposition is accepted. In other words, knowledge in hierarchical knowledge structures has a reality that is not separable from the phenomena it explains at least in terms of the current state of the discipline concerned.

Take the case of temperature. *Hot* as horizontal discourse is located in the every day. It does have a separate grammar, based loosely on experience. But *temperature* is part of a hierarchical knowledge structure (a theory of heat) and its grammar and instruments (the thermometer) are integral to its meaning. It is not that horizontal knowledge structures do not have discursive external relations; rather, it is that in hierarchical structures the external and internal relations are not separated.

The grammaticality issue only arises in cases when theory is weak, where integration is not possible, as is the case in the social sciences, in some borderline sciences such as parts of epidemiology, and when, as in the case of neuroscience, some attempt to extend the remit of the concepts beyond the capacities of the theory. Once again, why some theories are inescapably weak is not very clearly addressed by Bernstein, and we will return to this below.

The reading of Bernstein given here suggests then that a certain use of his distinctions can lead to what we have called a reductive view

of knowledge forms. It is possible one of us has contributed to this reading (Muller, 2007). If 'verticality' and 'grammaticality' are read as qualities of all specialised knowledge forms, albeit to varying degrees, then the distinction between hierarchical and horizontal knowledge structures collapses. The logical consequence of this reduction is that horizontal knowledge structures, primarily found in the social sciences, are seen as deficit hierarchical knowledges, or deficit natural sciences. This reading is powerfully abetted by a reductive move on the social sciences from another direction as well, derived from the explosion in cognitive neuroscience (Turner, 2007) that has been driven by new observational technologies like functional magnetic resonance imaging scans. This intellectual movement implies that the social sciences are indeed nascent 'immature' natural sciences and that their future as 'real' sciences depends entirely on further developments in neuroscience. Our argument, in concert with our reading of Bernstein, some neuroscientists (Tallis, 2011), and philosophers (Bakhurst, 2012), and traced back again to Durkheim, seeks to recover the specificity of the social sciences and humanities and thereby their distinctive senses of power.

Beyond naturalism?

How then are the human and social sciences different from the natural sciences? The question has traditionally been seen as 'the problem of other minds'. What the social sciences study is not a chunk of inert nature, what Bertrand Russell in droll fashion once called 'medium sized dry goods' (Russell, 1967). Rather, the social sciences study subjects that are *minded* (McDowell, 2007), with their own intentions and understandings of the situation at hand. We can observe what they do, but we cannot directly observe the meanings they attach to those actions; we can only infer them. This is particularly the case for understanding actions in the past, but it also pertains to actions in the present, even when we are in a position to ask the actors. This argument was canonised in Weber's famous distinction between *direct* understanding (or *verstehen* in German), which has come to mean understanding from the actor's point of view; and *causal* or indirect understanding, which requires a rational reconstruction, evidence, and a process of inference (in Whimster 2003, pp. 315–6; see also Turner 2011, pp. 246–7). It is this indirect or interpretive inference, and the relationship between the two kinds of inference, that has become a bone of contention and underlies at least some of the issues in the debate about powerful knowledge and the curriculum.

In the early to middle decades of the twentieth century, the 'problem of other minds' was brought home forcefully to the social scientific community from at least three different directions. The first was the collapse of behaviourism as an explanatory theory that had tried to ignore the meanings of social subjects. This was paired with an increasingly ferocious attack on 'positivism' that continues unabated today. The second arose from the difficulties experienced by anthropologists from colonial countries in their imperial task of trying to 'understand' the subjugated populations of the European empires that were then on their last legs (see, for example, Kuper, 2005). Third, as the century wore on, a series of social movements fed into a growing confluence – to name but a few: anti-colonial struggles and the emergence of an assertive Third World; the eventual success of the civil rights movement in the United States; the student revolts in Europe and elsewhere; the emergence of 'youth', gender, and ethnicity as significant new social categories, peaking in the counter-cultural movement of the hippies in the 1960s and 1970s. 'Anti-establishmentarianism', or a ubiquitous anti-authoritarianism, was in the air, what Geoff Whitty presciently called 'naïve possibilitarianism' (Whitty, 1974). It is no accident that the sociology of education's own mini-movement to 'make it new' (modernism's battle cry) was dubbed the 'new sociology of education', no accident either that it prominently featured a forthright anti-positivism and an experiential empathy with 'other minds' via an adoptive phenomenology from Schutz and Merleau-Ponty (see inter alia Young, 1973; and Chapter 2 of this volume).

All of these movements had in common, albeit often only implicitly, a particular reading of Kant (Turner, 2011; 2012). For Kant, understanding always involved 'presuppositions' on the part of the one doing the understanding; the understander always brought to the act of understanding a presuppositional surplus that underlay and ultimately shaped understanding. We return in a slightly different way to Durkheim's issue with Kant referred to earlier in this chapter. The question was, wherein did this surplus consist? The intellectual mainstream underlying much of the liberatory anti-establishmentarianism sketched above drew on certain strong currents of neo-Kantianism running from Nietzsche through Heidegger, the German hermeneutists, the American pragmatists, and certain kinds of neo-Marxism.

Most crucially for the social sciences and how they were appropriated in educational studies, it was through Kuhn's 'paradigms' that 'presuppositions' were to be understood in a non-cognitive or anti-intellectual way, at best as 'culture', at worst as contextual bias or ideology. The

resultant 'hermeneutics of suspicion' was precisely that any act of understanding of social activity was constitutively an act of ideological imposition, and often a covert attempt at mastery or 'symbolic violence'. It was taken as read that this ideological contamination was inescapable and could not but permeate the inferences of the social scientific observer or analyst. This constitutive contamination meant not only that social science was seen as a different sort to natural science, but that it masked an attempt at domination that required resistance, where resistance meant valorising the viewpoint of the 'other' and unmasking the interests of social science.

It goes without saying that this non-cognitive surplus would also mean that social science could necessarily only aspire at best to partial truths, because they would always preclude cognitive closure between data and theory, would always hijack 'epistemic finality' (Turner, 2011, p. 231), and thus remain un-objective and open to ideological bias. As Robert Merton (1968), perhaps the most revered of all American sociologists, was to put it, sociology was destined to be a discipline of 'many "approaches" but few arrivals' (p. 52).

This 'escape from the cognitive' (Turner, 2007, p. 359) always had strong voices standing against it, an 'escape' we have earlier called 'Future 2' in the context of an analysis of directions in the sociology of education (Young and Muller, 2010). We would like to briefly return to two strong counter-voices discussed earlier, Max Weber and R.G. Collingwood, both of whom, while accepting that social science would always consist in different perspectives, argued nevertheless that sociology and history, respectively, could both be objective and therefore truthful (Turner, 2011).

This claim for objectivity depended for both Weber and Collingwood on a position that held that there were elements of social life and action in the past that could be considered as objectively true and separable from the perspectival entry point of the investigator which was the hidden abode of his/her presuppositions. The value of the perspective, either narrative in the case of history (for Collingwood) or theory in the case of sociology (for Weber), could then be assessed as to how well it could account for the facts as could be agreed from and across different perspectives. That Weber's explanation of the rise of capitalism and his account of forms of authority survive and remain credible a century later, albeit not without criticisms, is testament to their objective longevity. As Bernstein might have put it, we might concede that theories or narrative approaches – the different horizontal languages – embed a certain one-sidedness that reflects the situatedness of the investigator

without also having to concede either that one-sidedness was all that could be said about the theory or that the facts of the matter were also therefore necessarily biased. Because the perspectives were plural did not mean that the grammaticality – rules for making judgements in terms of them – had to be weak. For both Weber and Collingwood, explanatory theories were detachable from the facts of the matter, necessarily so for any accountable investigation to be able to take place. In his most famous book, *The Protestant Ethic and the Spirit of Capitalism,* Weber (1905/2002) argued that we (and we must assume that at that time he meant 'we Europeans and Americans') need to come to terms with the fact that 'In Western civilisation, and in Western civilisation only, cultural phenomena have appeared which (as we like to think) lie in a line of development having universal significance and validity' (p. xviii).

As Weber liked to say, the thoughts of Caesar do not depend on the questions we ask (Turner, 2011, p. 237). But how do we know that we have got Caesar's thoughts right? Here we see the unfortunate consequences of the 'retreat from the cognitive'. If presuppositions are not detachable to some extent from observational understanding or interpretation, there are no resources left to guide or steer the act of direct understanding, and no one person can be 'better' or 'worse' at it than another. Exit knowledge; exit expertise. With the allocation of presuppositions to bias, there is no cognitive basis left for a tutored or expert observational gaze. That this is untenable can be seen by considering the case of expert professional action. A skilled and knowledgeable surgeon knows where to insert the scalpel both because he/she has the resource of specialised anatomical and physiological knowledge and because he/she has a repertoire of practical knowledge he/she has learnt from experience. So too the expert social scientist learns how to make social scientific inferences by learning the specialised knowledge base of the discipline and learning the observational and interpretive techniques taught by adepts. The actions of both the surgeon and the social scientist are, at some point, policed by a knowledgeable scholarly community through the myriad processes of peer review. What this example makes apparent is that the non-detachability thesis has the effect not only of ideologising all social scientific statements barring presumably the ones unmasking the ideological presuppositions, but more deleteriously, evacuating the possibility not only of expert action (Collins and Evans, 2007; Winch, 2010) but the possibility of specialised knowledge, and hence of powerful knowledge, in the social sciences.

Weber held to the view that presuppositions (value relevance) were – had to be – detachable from scholarly acts (value freedom), but he never provided a conclusive argument for why or how this could happen. His was ultimately a moral position that he located in his account of the professional vocation of the social scientist (Weber, 1958a). The approach taken in this chapter begins at a slightly different starting point. As we said in the introduction, and went on to elaborate, the distinction between non-specialised and specialised knowledge is absolutely crucial. Brought to bear on this problem, this implies that presuppositions – which predate the specialised scholarly or professional act – consist in non-specialised elements *as well as* in specialised knowledge elements. Both together form the basis of specialised acts or judgements. It is when pre-predicative specialised knowledge is excluded from consideration that social science can be regarded as irreducibly ideological. If the social sciences are to retrieve their specialisations as the basis of their claims to be a form of powerful knowledge, they have to re-introduce the task implied by Cassirer (1950; 1996; 1942/2000) but interrupted by the Heideggerians – that of 'socializing the epistemic and epistemologizing the social' (Turner, 2012, p. 474). That is another way of expressing what we mean by a socio-epistemic theory of 'powerful knowledge'.

The next question becomes: how to ensure that the non-specialised contaminants do not crowd out the specialised elements, which is where methodological rigour (or grammaticality) is critical, that is, methodological rigour as policed by the relevant peer community. We should admit that it is only relatively recently that some of the social sciences have moderated their previously sceptical and even dismissive attitudes towards peer review (part of the heritage of neo-Kantian anti-intellectualism) and taken the responsible step of tightening up on the importance of ensuring anonymity in patrolling the boundaries of what is and what is not admissible as social science. The social – here, the disciplinary community – returns as an executor and guarantor of professional or disciplinary judgement. The sloppier the peer collective is in patrolling the specialised/non-specialised boundary, the weaker will be the specialised-ness of the resultant knowledge, and the weaker will be the public trust in the resultant knowledge. It is in this way that society adjudges powerful from less powerful knowledge, not only in the verticality of its parent knowledge corpus.

Where does this leave the distinction between natural and social kinds? It is likely that this distinction will turn out to be a red herring. The problem with dichotomising 'natural' and 'social' kinds lies in the implications that are inevitably conveyed, that 'not natural' means

not only 'not determined by physical reality' but, as a consequence, 'not fully rational'. The distinction, in other words, accords specialised knowledge to the 'natural' and consigns the 'social' to non-specialised knowledge, folkways, common sense, and ideology. From the 'knowledge' position adopted in this chapter, it is not necessary or relevant to make a distinction between 'natural' and 'social' kinds. Besides the reductive freight it carries, attention is distracted away from the kernel of the issue. This is that all specialised knowledge communities have an onus to strengthen their methods, the better to strengthen their attendant theories and the coherence of their concepts.

This in no way denies the differences between the various forms of specialised knowledge that we have discussed. Nor does it claim that some are merely 'immature' versions, which may one day 'catch up', nor deny that the social sciences differ widely in the degree of shared agreement among peers. All these differences reflect the extent to which, as we have expressed it, the relations between specialised and non-specialised knowledge differ in different disciplines. The boundaries between the two are for all practical purposes unbridgeable in physics and in the chemical and, increasingly, in the biological sciences, not the least as a result of the lack of ambiguity of the mathematics they use and the abilities they have developed to express the relationships between their concepts in precise mathematical form. In the social sciences, if we take Cassirer's point about the intrinsic limits to the extent social phenomena are subsumable by concepts this will never be true. However, despite these differences, *all* disciplines deal with the world we face which is inescapably both natural and social. The distinction that matters is between those disciplines that, irrespective of their received conceptual reservoirs, are robust enough to gain public trust and those that do not. This is the social heart of powerful knowledge.

Whither the arts?

We started from the idea that knowledge is 'powerful' because it frees those who have access to it and enables them to envisage alternative and new possibilities. We focused on how this is exemplified by STEM subjects and, in different but no less important ways, by the social sciences including history. But what about the arts – performing, visual, and literary? Are they specialised knowledge in the sense we have discussed the idea? And are they differentiated from everyday experience as we have argued is true of the sciences and social sciences? And if not,

are they, as some current funding and curriculum policies in England seem to imply, to be cast into the dustbin of history?

We reject this view. At the same time, we do not claim that specialised 'powerful' knowledges are distinct from everyday experience only in degree. When we conceived of the title of this chapter as treating of 'powers' and not just of 'power' in the singular, we explicitly recognised that there are different forms of power associated with different forms of specialised knowledge. The STEM subjects are 'powerful' because they offer predictions and explanations beyond any that are possible for those who have to rely only on everyday thinking. The social sciences inherit some of these features: they provide generalisations that are tied, sometimes only weakly, to specific contexts; they generate facts grounded in the relatively objective methods of their peer communities. Their findings become a resource for debates about alternative policies, and they contribute in some cases to a society's conversations about itself. Furthermore, they make testable predictions, albeit in most cases as probabilities not certainties, and remind policy makers and politicians that the consequences of their decisions may be more 'powerful' than their intentions. The point we have made is that only if they take their rules of argument and evidence seriously, only if they treat their boundaries between disciplines and between specialised and non-specialised knowledge as sources of greater generative power, and not just as barriers to innovation, will their accounts come to be trusted and not dismissed merely as a set of competing ideologies.

Having made the point about the power of different types of specialised knowledge, we turn briefly to another dimension of 'power', for example, the power to imagine moral and aesthetic alternatives, which do not represent generalisations in the sense we have discussed, but which may be universal in the sense of connecting people to a larger humanity. There is every reason why access to such powers, expressed in literary, visual, musical, or kinesthetic forms, should likewise be an entitlement for all. They are specialised and separate from everyday experiences; they are located in specialist communities that define their concepts, rules, and practices, and the boundaries that distinguish them, define their objects, and provide constraints that can be sources of innovation and creativity. If they share features in common with other forms of powerful knowledge, what are those features and why is it important to distinguish them from forms made popular by the market?

In a recent comment, the music critic Charles Rosen (2012), whose work we referred to briefly earlier, points us in a fruitful direction, although we can do no more than hint at the possibilities here. Rosen reminds us that the arts, while not liberating us completely from

conventional meanings, let alone being without conventions themselves, provide a certain freedom from mundane certainties and conventions. What distinguishes arts from the sciences and social sciences is that although they are specialised and subject to the constraints and the boundaries associated with other types of specialised knowledge, they are not exclusive to specialist practitioners. You do not need to play the violin to appreciate Mozart, to write a novel to read Jane Austen, or to be able to dance to enjoy the Bolshoi Ballet. In each case though it is possible to gain a kind of freedom from everyday melodies, texts, and movements and to imagine an enhanced set of possibilities in each of those domains.

Whereas the sciences speak to the particular from the general, the arts speak to the universal in the particular and can enable people to feel part of a larger humanity. It is this freedom that Bernstein (2000) is referring to when he argues that disciplines are resources for 'thinking the un-thinkable' and the 'not yet thought' (pp. 29–30). Rosen (2012) reminds us of the links between the innate aesthetic impulses of human beings and the most obvious characteristic of every form of artistic endeavour, that at some point it inevitably draws attention away from its specific meaning and function to the form of expression and hence to the universal. What distinguishes the arts from other forms of 'powerful knowledge' is that although they have conventions, they are explicitly licensed to violate them, 'to entertain, to surprise, to outrage, to be original' (p. 10). This he says is their inherent subversiveness and why political regimes, especially dictatorial ones, try periodically to repress them.

There is one important similarity with other forms of 'powerful' knowledge that we have discussed. It is that the conventions (or boundaries) of the discipline, for arts and sciences alike, provide the conditions for being able to transcend them. This returns to our initial definition of 'powerful knowledge' – that it is specialised and differentiated from everyday thinking. At the same time we have extended the meaning and range of 'power' from the more obvious predictive powers of the STEM subjects to those subjects and disciplines that are not sources of generalisation or prediction but sources of the power to 'shock, outrage, and surprise' and hence transcend the limits in every present. That surely has to be part of any curriculum entitlement.

Conclusion

It is clear we have not solved all the conundrums that beset the idea of 'powerful knowledge', but we hope to have clarified at least some of

them. This is not least because the philosophical community has yet to find a way out of the dead end of the split between the two traditions of neo-Kantianism represented by Heidegger and Cassirer. Positivism tried and failed, by defining science in a way that no scientist could accept and excluding everything else. Constructivism simply attenuated its relativistic implications.

Other attempts like Latour's 'actor network theory' appeared to solve the problem of relativism but at the expense of losing both knowledge and the social (Turner, 2012). The social realist spirit that we inherit from Durkheim and attempt to revivify here rehabilitates specialised knowledge and binds it back into a social framework on which it depends. We think, however, that the long shadow of constructivism – an aspect of what we called Future 2 in our earlier paper (Young and Muller, 2010) – will be with us yet for some time, not least because, as John Searle (2009) has had occasion to remark, 'People who are convinced by social constructivism typically have a deep metaphysical vision and detailed refutations do not address that vision' (p. 89). This is a vision of creating the conditions for freedom, which they see threatened by 'objectivity', 'rationality', and 'science'. We too share that vision of freedom, but for us, as we hope to have shown, it is only through the boundaries of the disciplines that genuine freedom, unforeseen expanded possibilities, can be generated. In the meantime, we can but emphasise the importance of powerful specialised knowledge in its diverse forms as the best, and most just, basis for curricular decision-making. Nothing else seems to be on offer.

4

Powerful Knowledge, Esoteric Knowledge, Curriculum Knowledge

John Beck

Introduction: Powerful knowledge and knowledge of the powerful

Like his namesake Michael D. Young, who introduced the word 'meritocracy' into English,[1] sociologist of education Michael F.D. Young has had a gift for coining terms that have proved both attention grabbing and productive of lively debate. From his beginnings as an inspirational teacher and scholar at the London Institute of Education in the late 1960s, Young's work has been mainly in the fields of the sociology of knowledge and of the curriculum. His 1971 *Knowledge and Control* – subtitled 'New directions for the sociology of education' – set out to refocus sociological attention away from the 'political arithmetic' tradition associated with researchers like Jean Floud and A.H. Halsey (epitomised in the influential reader they edited in 1961) (Halsey et al., 1961) – and its implications for class differences in achievement. The book launched the new sociology of education, initiating two decades of debate and curriculum critique. Subsequently Young has repudiated many of these ideas, especially their epistemological relativism, in favour of a social realist stance (see 2008a, Ch. 2).

More recently, Young has foregrounded the terms 'powerful knowledge' and 'knowledge of the powerful' – which are proving to be almost as productive of lively, occasionally acrimonious debate[2] as those surrounding the new sociology of education, and which are the concern of this book. The first usage of 'powerful knowledge' I know of is by Leesa Wheelahan (2007), but the dyad – powerful knowledge/knowledge of the powerful – is certainly Young's. Such terms risk being turned into sound bites, losing precision as they become popularised. We should note too the tone adopted by philosopher John White, who sarcastically attacked Young's 'currently celebrated notion' that 'school education

should be about giving pupils access to "powerful" knowledge', deprecating the way this 'sexy-sounding phrase' was taken up by the 'expert panel' that advised Michael Gove on the reform of the English National Curriculum (Brown and White, 2012, p. 2).

It is essential therefore to let Young speak for himself:

> What then is this 'powerful knowledge' and how does the idea apply to schooling or professional or vocational education? I find it useful to make a distinction between 'powerful knowledge' and the related idea of 'knowledge of the powerful'. The latter refers to the knowledge authorised by those in power – and leads to questions about who has the power? Is it legitimate and on what basis? This is what the field I have worked in – the sociology of the curriculum – has focused on; it provides the basis for a powerful critique of existing curricula and how they perpetuate inequalities. However, it focuses on the knower – it does not tell us much about the knowledge. On its own it provides no basis for an alternative curriculum . . . .
>
> (Young, 2010b)

In a more recent statement he adds that

> 'knowledge of the powerful' . . . can be traced back to Marx's famous statement that 'the ruling ideas in any society are always the ideas of the ruling class', . . . Knowledge of the powerful seeks to identify those who define and dominate access to the knowledge . . . Both concepts can be used to describe the curriculum of elite schools such as Winchester and Harrow.
>
> (Young, 2012a)

A more extended characterisation of 'powerful knowledge' can be found in Young's paper, 'What is powerful knowledge' (2010d), notwithstanding his cautioning that this was still 'less than definitive' (2012a):

> The concept of 'powerful knowledge' has a very different focus – on the knowledge itself – its structure, what it can do and how it is organised for both the production of new knowledge and acquisition of existing knowledge which is new to the student. A working definition of powerful knowledge focuses on its purposes and the conditions for its production and access:
>
> it provides reliable and in a broad sense 'testable' explanations of ways of thinking;

it is the basis for suggesting realistic alternatives;

it enables those who acquire it to see beyond their everyday experience;

it is conceptual as well as based on evidence and experience;

it is always open to challenge;

it is acquired in specialist educational institutions, staffed by specialists;

it is organised into domains with boundaries that are not arbitrary and these domains are associated with specialist communities such as subject and professional associations;

it is often, but not always, discipline-based.

Young emphasises the significant overlap between powerful knowledge and knowledge of the powerful, especially insofar as elite school curricula are strongly grounded in powerful knowledge. He notes that 'a vision of schooling as an intellectual challenge . . . and as an opportunity for students to engage with the knowledge that has been produced by specialist scholars and researchers . . . [and which] . . . is certainly not fixed . . . has survived in elite schools [and] . . . cannot easily be characterised as a "curriculum of the past" ' (2011, p. 267). Moreover he stresses that such curricula should not be rejected within state education simply because of claims that they are no more than expressions of dominant knowledge. Perhaps most controversial though is that Young draws on this analysis to argue for a mainly subject-based curriculum for 'common schooling' (see, for example, 2010b, p. 29). And this remains controversial despite his repeated stressing that he is not endorsing the curriculum traditionalism of UK Education Minister Michael Gove (2010a, 2010b).

While in no way endorsing White's barbed comments, there may be value in trying to separate out various partially distinct meanings that each of these key terms – 'knowledge of the powerful' and 'powerful knowledge' – can suggest. My discussion is, of course, very far from exhaustive. I begin with 'knowledge of the powerful'.

Anatomising 'knowledge of the powerful'

First, as we have seen, Young (2012a) cites Marx's famous remark about the ruling ideas being the ideas of the ruling class. Marx here, of course,

was referring to ideological mystification – the idea that a range of dominant institutions transmit discourses through which people 'misrecognise' the exploitative relations that lie at the heart of capitalism. Many neo-Marxist thinkers suggest that such ideological distortion now 'works' partly because the agencies that transmit it represent themselves as neutral. As Ralph Miliband (1970) put it:

> the institutions that are the purveyors of ideology . . . are part and parcel of the system of domination: parties, churches, pressure groups, mass media, education . . . Political socialization is a process performed by institutions, many of which never cease to insist on their 'un-ideological', 'un-political' and 'neutral' character. (p. 59)

A second dimension of 'knowledge of the powerful' concerns more specific ideological exercises of the kind that Clark and Newman call 'governmental projects', a good instance being their own study of the sustained efforts by successive UK governments to shape new forms of neoliberal citizenship, focused on the formation of citizen-consumers in place of social-democratic citizens (Clark et al., 2007). Here, I focus on 'projects' of more limited scope: first those aimed at restructuring what counts as professionalism among trainee teachers in England; second, projects within the field of vocational training. All these involve pedagogic interventions that are cognitively restricting – denying students access to alternative ways of understanding the situations in which they find themselves. Bernstein's work on 'generic pedagogic modes' underpins these studies, especially his key insight that the deep structure of such interventions promotes 'trainability' – an internalised disposition to accept successive 'doses' of government-inspired training and retraining (Bernstein, 2000, Ch. 3).

In a paper co-written with Michael Young (Beck and Young, 2005) and elsewhere (Beck, 2008b; Beck 2009; see also Young 2008a, Ch. 10), I have explored what has been a sustained effort to restructure English initial teacher training, and in so doing, to redefine the nature of professions and professionalism. The essential argument is that competency-oriented forms of training have been introduced, notably the Teacher Training Agency (TTA) and its successor bodies, involving pressures on teacher training institutions to reshape courses in compliance with TTA 'standards' or face losing accreditation and student numbers – the whole process being reinforced by tight Ofsted inspection regimes. This involved excising disciplines like philosophy and sociology in favour of competency-oriented criteria and 'on-the-job'

training. And this effectively denied students access to debates about alternative conceptions of professions and professionalism. Moreover, because this 'project' was part of a wider disempowering of autonomous workers' organisations and empowering of management, these initiatives arguably involved 'coercive de-professionalization' (Beck, 2009, pp. 10–11). Of course, the ideological character of these projects cannot be understood in terms of a truth-versus-falsity dichotomy, or as being susceptible of falsification – both because there can be no incontestable conception of the 'true' nature of profession and because there can be no appeal to 'decisive' empirical evidence.

Jones and Moore's (1995) seminal paper critiquing the 'competency' movement in UK youth training schemes of the 1980s and 1990s is cited by Leesa Wheelahan (2007) in her critique of vocational education and training (VET) initiatives in Australia, which highlights a common feature of these programmes – that 'the outcomes . . . were . . . defined as unproblematic "descriptions" of the skills needed by employers' and adds that 'this process is [now] being driven further [so that] all VET qualifications will . . . incorporate the newly endorsed "employability skills" ' (p. 645). The paper's title sums up her critique: 'How competency-based training locks the working-class out of powerful knowledge'. The VET pedagogy, she argues, because it restricts students to the context of workplaces and particularistic 'employability' skills, denies them access to 'powerful knowledge'. Only disciplinary knowledge, she contends, can 'provide . . . access to relational connections within a field of study and between fields . . . . Students need access to the disciplinary style of reasoning (Muller, 2000, p. 88) to move beyond a focus on isolated examples of content' (Wheelahan, 2007, p. 642).

The implementation of these types of vocational training is, clearly, another instance of 'knowledge of the powerful' – in this case the imposition of types of pedagogy provided by powerful interests precisely for those deemed 'not to need' access to disciplinary knowledge. As Wheelahan (2007) puts it, Australia saw the development of 'controlled vocationalism that granted increased control to the state and employers in specifying the outcomes of VET' (pp. 643–4). Summarising, she argues that

> Unless students have access to the generative principles of disciplinary knowledge, they are not able to transcend the particular context. Students need to know how these complex bodies of knowledge fit together if they are to decide what knowledge is relevant for a particular purpose, and if they are to have the capacity to

> transcend the present to imagine the future. Knowledge is not under their control. This simultaneously denies them epistemic access to the structure of knowledge relevant in their field and social access to (what Bernstein called) 'the unthinkable'. (p. 648)

Finally, I turn to a significantly different aspect of 'knowledge of the powerful' – concerning the ways in which privileged access to 'high' culture, accompanied by a particular 'relation to' this culture, confers 'distinction' on its possessors, marking them off as members of an exclusive elite or set of interlocking elites. The work of Pierre Bourdieu, especially in *Reproduction in Education, Society and Culture* (Bourdieu and Passeron, 1977), *Distinction* (Bourdieu, 1984), and 'The Forms of Capital' (Bourdieu, 1986), as well as the important contributions of writers like Sayer (2005) and Reay (see 2004) together comprise what is probably the best-known analysis of such processes. Centred in the concepts of economic, social, and cultural capital; the cultural arbitrary; the conferral of cultural legitimacy; symbolic violence; misrecognition; and so on, this body of work is sufficiently familiar to need no further elaboration. The equally important work of Weberian sociologists on status-group strategies of monopolisation and exclusion is also relevant and includes Weber's own seminal work (such as 1946, Ch. 17) and the work of such writers as Collins (1977), Parkin (1979), and Savage et al. (1992). It is of some interest that this dimension of 'knowledge of the powerful' is strongly centred in the arts and 'useless' knowledge, rather than the sciences or even the social sciences.

It is instructive in this respect to revisit the famous 'Two Cultures' debate of the early 1960s as initiated by C.P. Snow (1961). Maton (2006) has noted that it is possible to interpret this high-profile 'spat' as a consequence of what many contemporary commentators saw as a shift towards the sciences in 'the balance of power between the humanistic and scientific disciplines' (p. 46). Nevertheless, at the time, it was widely thought that 'victory' in the debate went to the literary critic F.R. Leavis (see 1962), not the 'man of science' C.P. Snow. There is an irony here, insofar as it illustrates that expertise in science (or even a broad acquaintance with scientific culture) often has limited utility in games of intellectual one-upmanship. This is perhaps partly linked to the different character of esotericism in science compared with the arts. Whereas the esotericism of the sciences is largely intrinsically unintelligible to outsiders, the discourse of the arts has reference to 'objects' that are intelligible through ordinary language. Most 'educated people' can decipher commentaries and criticisms of artistic works, whereas few can

grasp what the Higgs boson is, let alone why experimental confirmation of its existence is so highly consequential for quantum theory. Because of this, popular conceptions of being an 'educated person', as well as 'judgements of taste' and the invidious distinctions they imply, seemed destined to remain associated with literary culture and the arts.

Powerful knowledge, esotericism, and curricular 'tensions'

I begin this section by baldly stating the conclusion of this part of my argument. 'Powerful knowledge' is certainly an appealing term: who would not want people or children to have access to such a thing? But here too, there may be value in distinguishing various meanings that can quite reasonably attach to it, so that if we employ the term for educational purposes, the distinctive meaning intended can be more closely defined and justified.

One issue concerns empowerment. Clearly, powerful knowledge is empowering – cognitively at least. But not all these sorts of empowerment are desirable. Some knowledge may empower people to manipulate others in undesirable ways. An educationally defensible conception would therefore require criteria to exclude such morally repugnant sorts of empowerment. Another problem arises because various sorts of knowledge that may be empowering need not be true – a point highlighted by Berger and Luckmann (1967) who were 'quite clear that they were not engaging in epistemology, and were concerned solely with explaining "what passes for knowledge" in society' (Hammersley, 2011, p. 488). Or again, Foucault's famous coupling of power-knowledge, notwithstanding its own relativistic presuppositions, has shown how various social science discourses which emerged in the late eighteenth century and saw themselves as progressive and emancipatory were inseparable from new 'technologies' of surveillance, normalisation, and subjectification (see Rabinow, 1986, pp. 51–100; Rose, 1998).

In the limited space remaining, however, I want to focus more closely on esoteric knowledge and to relate this to certain chronic tensions affecting school curricula in modern and late modern societies. As we have seen, several social realist writers who also use Bernstein's work on knowledge structures (2000, Ch. 9)[3] highlight the gap between commonsense knowledge and disciplinary knowledge. Young and others underline the educationally important point that disciplinary knowledge comprises clusters of interrelated abstract concepts – which take human understanding beyond the level of everyday awareness, producing knowledge that has greater explanatory power

but which is also more esoteric – separated off from ordinary experience and its pragmatic frames of reference.

This leads directly to the first of three tensions concerning school curricula that I want to address. Geoff Whitty concluded a recent paper on curriculum change by identifying various pedagogic challenges to 'giving disadvantaged pupils access to powerful knowledge – and giving it meaning and critical purchase in their everyday lives' (2010, p. 40). Also, as we have seen, Wheelahan, Young, and others have similarly argued that epistemic access to disciplinary knowledge is indispensable to enabling students to transcend the limitations of everyday experience and develop critical awareness of the forces structuring their own lives. Now, it is important to stress here that this critical and emancipatory potential results mainly from the relatively autonomous nature of disciplinary knowledge – and this in turn is closely linked to its self-referential character. Within these relatively autonomous scholarly communities, structured sets of interrelated concepts are required to be logically related, internally coherent, and – crucially – oriented to the 'problems' internally identified within each discipline at a particular stage of its development. It is primarily this orientation to a discipline's own problems, and its capacity to develop concepts and forms of research to interrogate them, that gives disciplinary knowledge its power to provide alternative ways of seeing the world and our place within it.

However, this is where we encounter tension 1: it is precisely this self-referential character that constitutes one major impediment to providing effective epistemic access, especially to those from disadvantaged backgrounds. Disciplinary knowledge is intrinsically esoteric. Consequently, getting on the inside of it requires prolonged initiation (Peters, 1965). Bernstein highlights a further problem: he pointed out that specialised scholarly communities tend towards narcissism – creating self-sealing, inward-looking, educational identities that partake of the sacred (2000, pp. 54–5, and see Beck, 2010). For these reasons not least, therefore, enabling students to make subjectively meaningful connections between these necessarily remote disciplinary worlds and everyday experience may prove to be one of the most challenging educational problems facing us. It is worth noticing too that the 'really useful knowledge' – that is, the socially critical and empowering knowledge called for by various nineteenth-century radicals – was seen as something to be developed outside formal schooling, within the organisations of the labour movement (Johnson, 1976). Few such viable alternative contexts exist today.

These issues are intimately linked to tension 2: in brief, breadth versus specialisation. Equipping young people to understand themselves and their position in society should be a key educational aim for all future citizens. Doing this effectively involves empowering students to see through the various forms of distorted communication that shape everyday consciousness, as well as equipping them to make judgements about areas of 'significant controversy' (McLaughlin, 2003, pp. 140–1). But finding curriculum space for these broader aspects of education has proved notoriously difficult, as has getting students to take them seriously.[4] Examples are legion, but one piece of recent evidence comes in the final report of the Citizenship Education Longitudinal Study (Keating et al., 2009) which notes that it was particularly in the 'exam rich' schools in their English sample that citizenship education was 'affected by lack of status and momentum and by pressures . . . from core subjects' (para. 7.2.2). Diverse pressures push schools and students towards earlier academic specialisation – with a concomitant narrowing of their studies. One is intensifying performativity. But the underlying tension is more intractable. Contemporary educational curricula are subject to powerful demands to select and prepare a growing proportion of students to become specialists – and such pressures are increasing. They are driven by global competition, especially in subjects related to economic activities that really are 'knowledge driven'. They are also evident in the depth of study required to assimilate the ever-proliferating range of knowledge(s) required. Leading UK universities are lengthening undergraduate courses, especially in 'mathematicised' disciplines. Yet these developments are themselves only the most recent consequences of the dramatic growth in the division of intellectual labour that, linked to the emergence of industrial society, 'took off' in the nineteenth century.

The intensification of academic competition, especially in accessing high-status universities, adds further pressures. Here, ironically, efforts to widen access – especially to 'top' universities – can compound the problem. Students with less cultural and economic capital are rightly seen to need longer and more intensive study in their future specialisms if they are to compete effectively. Whitty cites Michael Gove himself here:

> Richer parents who can afford it access specific subject teaching earlier rather than later with the most successful prep schools

> introducing discrete subjects taught by subject specialists before pupils go on to secondary education.
>
> (Gove, 2008 in Whitty, 2010, p. 30)

I turn finally to tension 3 – esoteric knowledge as an element of 'high' culture and its role in perpetuating cultural and social exclusion. The paradigm case of esoteric cultural accomplishments as markers of the 'distinction' of an elite stratum is probably Weber's essay on 'The Chinese Literati':

> Canonically perfect and beautiful achievements were the highest aspiration of every scholar as well as the ultimate yardstick of the highest qualification certified by examination . . . . Puns, euphemisms, allusions to classical quotations and a refined and literary intellectuality were considered the conversational ideal of a genteel man.
>
> (1946, pp. 436–7)

Weber, of course, also highlighted the real functional importance of this key administrative elite in classical China. But he emphasises that it was precisely the conjoining of esoteric (in the sense of arcane and abstruse) culture with an ideal of personal accomplishment that was key to how such social exclusivity was sustained. Also central is that such 'cultivation' is the product of prolonged formal and informal processes. Turner's (1961) analysis of 'sponsored' social mobility is a locus classicus. The English system of 'social ascent', he argued, required that able students who lacked cultural capital were selected early in their educational lives and educated within institutions that were decisively not 'common schools' – so that they might acquire the broader cultural characteristics of the 'closed' elites of the society. Sir Charles Snow (mentioned above) was a paradigm of this process.[5] Halsey famously demonstrated that for such students, British grammar schools created cultural capital and did not merely reproduce the capital acquired elsewhere (Halsey et al., 1980, Ch.5). But accepting this, Bourdieu is surely persuasive in claiming that an 'aristocratic relation to culture' – that combination of assurance, ease, negligence, effortlessness in drawing upon esoteric 'consecrated' culture – is, in the typical case, the product of a well-endowed familial and class habitus, as well as of an academically focused formal education. The familial as well as the school and university backgrounds of many members of the current UK Coalition cabinet testify to the continuing advantages accruing to the possession of this form of embodied

cultural capital – as well as the social capital typically associated with it.

Conclusion

If the foregoing analysis is persuasive, prospects for widening epistemic access, especially access to socially relevant, emancipatory knowledge, are far from encouraging – especially in England. Michael Gove's curricular reforms, both current and in prospect, are not only backward-looking (see Young, 2011; Beck, 2012b) but likely to further narrow the curriculum and deepen the gulf divide between 'academic' education and vocationalism (see Young, 2011). Perhaps even more discouraging is the longevity of all three tensions discussed above, as well as the ways they interact to sustain entrenched patterns of epistemic and social privilege and exclusion.

Notes

1. Michael D. Young originally published The Rise of the Meritocracy in 1958. For a discussion of the vicissitudes of the concept of meritocracy see Beck, 2008a, chapters 1 and 2. See, for example, the exchange of views between John White and Michael Young on the 'New Visions for Education Group' website (Brown and White, 2012; Young, 2012).
2. See, for example, he exchange of views between John White and Michael Young on the 'New Visions for Education Group' website (Brown and White, 2012; Young, 2012a).
3. For a recent and highly original discussion of this aspect of Bernstein's thought see Moore, 2013, Ch. 6.
4. I have discussed some of these difficulties elsewhere. In relation to research by Whitty, Aggleton and Rowe (2002) see Beck (2008a, pp. 44–5); and with reference to New Labour's citizenship education programme, see Beck (2012a, pp. 8–10).
5. Snow was a lower middle-class boy from Leicester. He won a scholarship to a Local Education Authority grammar school, going on to his local university college and then to Cambridge. He was a distinguished scientist and a prolific novelist and became an advisor to those inhabiting what he memorably called *The Corridors of Power* (1964).

Part II
Knowledge Politics and Policy

5

Knowledge and Democracy: The Strife of the Dialectic

Elizabeth Rata

Introduction

The curricula of public education systems provide the symbolic resources for modern democratic societies. Anthropologist Benedict Anderson (1991), writing in the last two decades of the twentieth century, called curricula the 'basic substantive content thought to be necessary for society as it is, and for society as it is to become in a future imagined community' (cited in McEneaney and Meyer, 2000, p. 189). This realisation, that modern societies have new ways of producing meaning and new collective representations of the world, has its origins in the work of an earlier anthropologist, Emile Durkheim. Durkheim, writing at the beginning of that century, described the purpose of national education systems as socialising young people into new ways of representing the world that enable modern society to be rationalised and secularised. The access to the mass schooling of the period was an important contributor to democratic politics. Scientific ways of thinking were the intellectual means to reject the tyranny of traditional culture and ascribed status for an identity that recognises the individual as the bearer of human rights in a new relationship to society. These new ways of thinking represent the 'powerful knowledge' that Michael Young and Johan Muller detail in Chapter 3 of this volume. This is the knowledge created in the disciplines of the arts, sciences, and humanities and used to understand experience and to take us beyond experience. The most important idea bequeathed from Durkheim and one at the centre of a realist theory of knowledge that informs the ideas in this book is that this powerful knowledge is differentiated from the knowledge acquired from experience – the sociocultural knowledge of everyday life (Rata, 2012a; 2012b).

Powerful disciplinary knowledge and democratic politics are intricately intertwined as key ingredients of progressive modernity. The democratic citizen is the source of the accountability for political authority while the doubt and criticism generated in the disciplines are the means by which those in power are held accountable for the authority they exercise. This means that a symbiotic relationship between individual citizens and disciplinary knowledge is required for democracy. That relationship is created in the public schools of democratic nations. Schools are where children are socialised into objective and critical ways of thinking as they are taught academic knowledge. The children of each generation are socialised as citizens who have the intellectual means with which to hold their elected leaders to account *because* they have been taught to think objectively and critically. The only way to acquire that objective critical orientation to the world, which is an individualised and politicised identity, is through a long and often demanding apprenticeship in academic subjects at school. For that reason, the schools of modern democratic nations are crucially important to the maintenance of those nations. It is an importance that, if forgotten, or even not fully appreciated, subverts the very conditions upon which democracy is built. Public schools matter and so too do their academic curricula.

When nations change, institutions change thereby affecting the individual identities created in those institutions. We are currently living in a period of such fundamental change with the shift from industrial to financial capitalism deeply affecting how nations regulate their economies and institutions. Within education, the curriculum itself is turned on its head as knowledge is inverted from content to 'process' to suit the global market. The subsequent emptying out of knowledge from the national curricula as knowledge is reshaped into process and skills is widespread. It affects democratic countries like the United Kingdom, South Africa, New Zealand, Australia, the United States, and Norway, among others.

The changes are also evident in the reshaping of identities as the modern secularised sensibility is challenged by the rise of religious fundamentalism and the revival of superstition. Public education in democratic countries can no longer be counted on to value the rational and the secular. The appeal of the irrational to the well-educated, always a counter-tendency in modernity, weakens the rationalised sensibility of the modernised individual. Various group identities gain appeal. There is the romanticised ideal of kinship or ethnic belonging. The fascist ideal of the individual dissolved into the might of the *volk* under a

heroic leader is within this tendency to the irrational as is the religious- or racist-inspired terrorism of recent times. The appeal of the irrational is the dark side of modernity. To acquire knowledge without being able to express doubt and criticism is the route to that side. It is no coincidence that today's terrorists are often well educated. But theirs is the knowledge of unquestioned faith, rather than the knowledge of justified belief, that provisional truth of rational science.

The return to power of the elites, the increase in inequality, and the weakening of the democratic nation-state as the site of class struggle against privilege – all consequences of the fundamental changes to global capitalism in the twenty-first century – threaten each of the three essential components needed for democracy: the nation, the state, and the citizen. Throughout the twentieth century, national education systems were concerned with the 'construction of participatory and equal individual persons as the primary social unit' (McEneaney and Meyer, 2000, p. 189) and with the universalising orientation of these individuals. This orientation was necessary to create the 'public' – a sociopolitical entity comprised of people without a shared history but with a shared future – the *demos* or people of the democratic nation. With the weakening of this universalising orientation individuals turn to the romanticised identities of primitivism and neotraditionalism or to the postmodern cynicism theorised by Jonathan Friedman (1994). Others take on the reactionary modernism that combines technology and fascism (Herf, 1984), requiring no more of the education system than an instrumentalised curriculum and its apolitical rationale. These are the conditions for knowledge justified by belief to flourish and for doubt and criticism to retreat.

What has caused this loss of confidence in the purpose of national education systems to teach the cumulative knowledge of the arts, humanities, and sciences of the modern politicised society? After all, it is in this disciplinary knowledge that one learns the political tools of doubt, challenge, and criticism as well as symbolic representations of the modern self-creating society. New forms of art, literature, and culture bind together populations that do not share the same past but do share the same future. The humanities – literature, history, and the arts – create those symbolic representations. Durkheim recognised the integral relationship between the social structure and symbolic structures. In traditional societies symbolic structures come from the past and are authorised by religion and custom. In modern societies, symbolic structures are constantly being created. The disciplines in the universities are the main site for that creation and for the authorisation of

the knowledge according to the discipline's procedures and generative principles.

The disciplines are also the source of the academic knowledge reproduced in schools. Given the vital role of these disciplines in creating and maintaining progressive modern society, the loss of confidence in that role is a central problem for these societies. What happens to those disciplines when they are seen as superfluous to a society? And what happens to the school curricula when the disciplines themselves lose both their generative power and their authority as the source of new knowledge? The emptying out of the curriculum, particularly in the subjects of the arts and humanities, is the canary in the mine. It points to a crisis in those disciplines themselves. This is the loss of disciplinary authority to create modern society's symbolic resources.

Symbolic resources for a new age

Why have the symbolic resources for the nation's collective representations become so weakened? The answer lies in the change to the social structure itself with the emergence of a new political economy of global capitalism and its regulatory politics of neoliberalism. This ideology has, in weakening the regulatory role of the nation-state on behalf of the market, weakened the site for the democratic 'strife of the dialectic' (Kant, 1781/1993, p. 488) that characterised the institutions of that polity, including national education systems. It is a strife located in the contradictions of faith and doubt, of tradition and change, of group belonging and individualisation – contradictions allowed expression in democratic society. Contrast the tradition and security of the home with the strange and changing world of the school. Contrast the stability offered by religions and cultural identification available in the social sphere with the doubt and criticism of the public secularised space. These are the contradictions most readily identifiable in liberal humanism with its inclusion of the irrational within the rationalised disciplines of the arts and humanities. Literature, history, and the arts enable the recognition and expression of the complex and contradictory human being. In doing so, the humanities discipline that irrationality without losing the power to create new forms of symbolic resources. Here 'discipline' as a verb enacts the work of the humanities – to impose order on human thought so that creativity is generative not destructive, rational not irrational, and principled not chaotic.

What happens when a narrow economic instrumentalism gains ascendancy over liberal humanism? We see the outcome in the increased

emphasis on vocational education and on the skills and capabilities the ever-changing market may require. The corollary is a lessening of the importance previously given to the humanist subjects of literature, history, and the arts – subjects aligned to the political project of democratic nationalism. The natural and physical sciences retain some of their privileged status but increasingly as technology to be commodified rather than as the intellectual means to 'entertain doubts concerning practices about which common sense has never doubted before' (Fukuzawa, cited in Macfarlane, 2002, p. 167). This feature, noted by Yulichi Fukuzawa, one of the leading proponents of the Japanese Enlightenment in the late nineteenth century, captures that crucial differentiation between social knowledge or common sense on the one hand and disciplinary knowledge on the other. It is a differentiation that Michael Young describes as the 'key idea in a realist theory of knowledge' (2012b, p. 140) with its origins in Durkheim's distinction between the sacred and the profane.

Abandoning that knowledge differentiation is behind the declining importance of humanities subjects. Education now serves a new sociopolitical purpose, requiring new symbolic resources for a less democratic, more unequal future. Twentieth-century liberal democratic nations were the site for politics and 'authorising, funding, and managing mass schooling [was] part of an endeavour to construct a unified national polity' (Ramirez and Boli, 2007, p. 200). For some nations, those that became democracies in the nineteenth and twentieth centuries, the endeavour was one of ongoing class struggle. Working people achieved hard-won gains in the redistribution of wealth from the rich to the workers and through social security programmes to the unemployed. It is worthwhile emphasising how unusual this was – for a short period in the history of the world, particularly the two decades following the Second World War, a political system managed to redistribute a degree of wealth from the rich to the poor. This truly exceptional politics allowed one very privileged generation to receive an education that liberated them from the confines of experience. It was a generation educated in the powerful knowledge of the disciplines, and because these young people had that knowledge they became powerful. They became the professionals, the bureaucrats, and the politicians of the 1980s and 1990s. The awful irony is that it is this generation that used their gifted power to 'turn off' the politics of redistribution. They not only 'turned off' access to the symbolic resources of modernity – the very means of its own power – to the next generation, but remade those resources into the instruments of the market. Those who followed receive a new curriculum. It is a curriculum emptied out of disciplinary knowledge with

its subversive political potential and filled instead with the skills and competencies of compliance.

Future age learning

Much of this neoliberal education ideology employs the rhetoric of a new 'Knowledge Age' or '21st Future Learning' (Delors, 1998). I will use the term 'Future Age learning' to refer to this re-orientation of education systems from their role in integrating the nation and creating 'turbulent citizens' to their place in the global market. While the new role is visible in the general shift to an instrumentalised education that serves the market, in some cases there are direct links between education and global corporations. The Assessment and Teaching of 21st Century Skills project designed by Cisco, Intel, and Microsoft is an example of this relationship. The technological products of many of these corporations are designed to support a skill-based curriculum, one that requires the use of their products. In this way the new curriculum reinforces the commitment to the 'connectivity' and 'innovation' of an exciting digital utopianism (Turner, 2006). Bolstad and Gilbert's (2012) description of the 'Knowledge Age' succinctly captures the main ideas of such instrumentalist education:

> [The] Knowledge Age must foreground the development of learners' dispositions, capacities or competencies to deal with new situations and environments, including those with high degrees of complexity, fluidity and uncertainty. This does not mean that knowledge no longer matters, or that the school curriculum does not need explicit goals for students' knowledge development. Rather, the future-focused education literature suggests we need to adopt a much more complex view of knowledge, one that incorporates knowing, doing and being. Instead of simply assuming these capacities will be developed through engagement with disciplinary knowledge (the traditional view), there is a shift to focusing on the development of everyone's capabilities to work with knowledge.
>
> (pp. 2–3)

The 'Knowledge Age' approach can be distinguished from liberal-humanist education in two main ways. First, globalisation is understood as the spread of ever-increasingly advanced technologies which require new capabilities and skills to create the 'exciting' products of the consumer age. This is an apolitical view which overlooks the nature of contemporary globalisation as the political regulation of the global

market. Globalisation is not just the market; it is the control of the market. Previously, restraints on the anarchic nature of global capitalism were exercised by nation-states imposing regulations to safeguard their own people. This was the reason for the troubled genesis of the modern nation in the nineteenth and first half of the twentieth centuries as working people fought for political control over their conditions of existence. It was a brief victory, however, culminating in union power and welfarism in the immediate post-war period. By the 1980s any lingering worker power had rapidly collapsed. The regulation of capitalism from within the nation-state (and therefore open to varying degrees of worker control) was increasingly replaced by neoliberal controls on the nation from the global arena.

The subsequent weakening of the nation-state, the growing power of global corporations, and the reversal of the twentieth century trend towards greater equality are changing the purpose and function of education in significant ways. A pessimistic reading would say that education has lost, or is rapidly losing, its subversive power. That power to subvert, to challenge, and to change lies in the disciplinary knowledge of a liberal-humanist education developed from Enlightenment principles. Indeed the very origin of that type of education was in making that challenge to power. It is no coincidence that Kant chose Horace's famous 'Dare to know' as the opening line for the seminal essay of modernity, 'What is Enlightenment'? (Kant, 1784/1990).

The second feature of the reduction of knowledge to an apoliticised skill is the promotion of knowledge as a process. Bolstad and Gilbert (2012) provide the most succinct description of this approach that I have encountered. With the confidence of those secure in the market's approval they say, 'Knowledge is rapidly created every day. Knowledge is the *process* of creating new knowledge. It is a product of "networks and flows" coming into being through interactions and intersections on a "just-in-time" basis to solve specific problems as they emerge' (p. 13).

Remarkably this account ignores centuries of debates about the nature of knowledge. There is no engagement with realist philosophers such as Karl Popper (1978) who 'distinguishes sharply between knowledge in the subjective sense and knowledge in the objective sense' (p. 16), regarding 'knowledge in the objective sense [as] consist[ing] not of thought processes but of thought contents'. These contents, the products of the human mind, consist of 'abstract objects such as languages; scientific conjectures or theories; and works of art' (p. 11) that are the results or products of thought processes. Nor is the crucial issue of criticism addressed by the 'process' advocates. If knowledge is process,

then *what* might be doubted, challenged, and criticised? The 'process' advocates are silent on the mechanisms of knowledge generation; they are unable to explain what creates the episteme and how it is structured. This lack of a theory of knowledge is a major weakness for the 'knowledge is process' advocates. It leads to its narrow problem-solving approach, the empiricism behind the 'outcomes' understanding of knowledge. In contrast, disciplinary knowledge uses idealised or theoretical models that may or may not fit experience. It is the development of these models that is the means by which new knowledge is created (Matthews, 2000). The new knowledge is developed conceptually and undergoes endless cycles of testing and criticism. The testing may well include applying the concepts to understanding or illustrating reality. However, the worth of the new knowledge is not whether the model 'fits' reality but whether it extends the principles and concepts of a discipline. These concepts are, as Popper argues, the content of thought processes. They are the knowledge of any given discipline and are context independent.

A school curriculum founded upon disciplinary knowledge that has actual conceptual content offers each generation intellectual capital that the 'process' approach cannot match. Such powerful knowledge is a symbolic resource that enables young people to understand a world beyond their experience. Unlike empirically derived knowledge, it is not bound to that experience from which it is derived. Pierre Bourdieu captured the intellectual freedom from experience that disciplinary knowledge gives us in his description of the 20-year-old mathematician who 'can have twenty centuries of mathematics in his mind' (2004, p. 40). Contrast that 20-year-old with one locked into the confines of experience and problem-solving. For this student there is only the knowledge of that particular experience or problem, one located in one context and time. This type of empirically derived knowledge provides little to generate from.

The conceptual knowledge of the disciplines is as much a political resource as an intellectual one. Thinking in the abstract objective ways demanded by disciplinary study enables students to conceptualise what society is and what it might be. Politics is the enactment of those ideas. Crucially it is the ideas that come first. It is the role of epistemic knowledge as the symbolic resource for democracy that creates the integral link between democracy and epistemic knowledge. In Kantian (1781/1993) terms it is 'the strife of the dialectic' (p. 488) that is the necessity of reason *and* the necessity of democracy. 'Without the control of criticism reason is, as it were, in a state of nature, and

can only establish its claims and assertions by *war*' (p. 490, emphasis in the original). Like reason itself, democracy is the strife of the dialectic without the destructive nature of 'war'.

The strife of the dialectic

This section discusses the inherent problem for sociologists of education – the intransigence of class inequality that is exacerbated by 'process' education. Given this intransigence, two questions need to be asked. What *can* education do to increase equality in societies moving towards increasing inequality? What *can* education do to improve the lives of individuals? The social realist explanation that powerful knowledge can change lives does more than keep faith with the older ideals of humanist education. It seeks to explain how class determinism might be interrupted. In doing so, it rejects the limitations of Marxist structural determinism where only revolution from outside can change education from the inside. It rejects the limitations of a naïve liberalism that finds a solution in the 'merits' of the hard-working individual. Most resoundingly, it rejects the neoliberal instrumentalism imposed by global capitalism on national education systems.

Those sociologists who use a social realist explanation look at two conditions that are necessary to interrupt a predestined 'origins to destination' life trajectory. One is political and one is epistemological. The first condition is the individualisation and universalising orientation that occurs in the schools of the modern period. This is the identity under threat from the shift to pre-modern group identities. The second condition, the epistemological one, is the symbolic resources required for individualisation and the subsequent universalising orientation. The production of those symbolic resources occurs in 'the modern *transformation* of the sacred into secular forms' (Moore, 2013, p. 40). Because 'modern society pluralizes ways of producing meaning' (Hervieu-Leger, 2006, p. 106, cited in Moore, 2013, p. 39), it expands symbolic resources in ways that break with the traditional world view.

These expanded symbolic resources allowed for the development of new concepts about what it is to be human with the rational free individual at the centre of new ideas about the 'human condition'. Kant described the critical reasoning of this autonomous individual as an intensely moral and political act. It required uniting reasoning and criticism in 'the freedom to make public use of one's reason at every point' (Kant, 1784/1990, p. 84). But it was not only the autonomous individual that was needed. The concept of the 'public' itself was a building block

in this newly envisaged world. How were individuals to come together in ways that were not controlled by status and hierarchy, in ways that were a new polity? For that, a society requires the individual who is separated from the familial or ethnic group *and* a place for these public individuals to meet. It is the differentiation of the public from the private that is a precondition for a new society where individuals meet to use the symbolic resources of modernity. For this reason the public nature of the school is vital. It is not an extension of home. Its value lies in the fact that it is not like home; it is the first place where a child learns to act in the public domain and to acquire the identity of the public person. Moore (2013) describes schools as 'the open and democratic space into which education provides the entry' (p. 37).

The spread of access for the working-class to the intellectual methods of the modern period was made possible with the increasing democratisation of a number of nation-states. These were nations that engaged in the Kantian strife of the dialectic within each of the three foundational elements of the democratic structure: the nation, the state, and the citizen. That ongoing strife served to regulate the irresolvable tension which characterises democracy's peaceful conflict. Within the nation, the contradiction existed because people did not share a common history, ethnicity, or religion, but did share the commitment to a unified future. Such a unity is taken on trust – a trust maintained only as long as the nation is democratic, that is, recognising all groups as one people, one *demos*. The political purpose of national education systems was to develop this trust. It did so in three ways: first, by socialising children into a universalist orientation; second, by providing the nation's symbolic content in subjects like literature, history and geography, and the arts; and third, by steadily increasing provision to this and other epistemic knowledge for all.

The state is the second foundational element of democracy. Its structural contradiction lies in the fact that this body of institutions serves as the regulator of two opposing forces: of both capitalism and democracy. On the one hand the state contains the institutions, laws, and processes to enable the economy to function in its own interests. This includes creating the mental–manual division at the basis of unequal class relations. The instrumental curriculum of process and skills education serves this goal of the state. On the other hand, the state is the set of democratic institutions that served to restrain and regulate capitalism in the interests of working people. This role, however, depends upon the strength of worker politics in securing those interests.

The education system is directly implicated in these two opposing processes – hence the strife of the dialectic operates so powerfully in

that system. It is the site for the creation of the mental–manual division *and* the site where that division can be interrupted. The social realist concern, indeed the focus for the sociology of education more widely, is how that interruption can happen given such strongly competing forces. *What matters is that interruption is possible.* It occurs in the provision of epistemic knowledge which, by creating knowledge that is always provisional in that it is subject to critical scrutiny, enables people to inhabit an intellectual world of possible alternatives – a democratic world. But it is not enough for that knowledge to be produced. It must also be reproduced in a pedagogy that provides access to this powerful knowledge for all children (Young and Muller, 2010a; McPhail, 2012a).

The third structural element in the democratic polity which contains the strife of the dialectic is the status of citizenship. The individual lives in a state of contradiction, holding equal political rights, yet is, at the same time, the unequal worker. As with the state element, the education system is central to the creation of the citizen who can exist in this strife. It is a strife which exists on a number of levels. As well as living the equal citizen/unequal worker contradiction, the individual is simultaneously a member of a traditional social group (such as the family, the ethnic, or cultural community) and a member of the modern nation. This is the social group that does not share a past but coheres in a belief in the future. In this contradiction, two opposing orientations meet – the universalising orientation of the public space which is directed towards the future and the communising orientation of the private world which is rooted in the past.

Because these irresolvable tensions are always 'open' and available for contestation, they are the source of the potential interruption to class determinism. National education systems are a primary site for this interruption. It is at school that children must find a way out of the private world of the home to the public world beyond. A curriculum based on abstract objective ways of thinking, ways derived from the disciplines, provides the symbolic resources required if this transition is to take place. However, the difficulty of the interruption to the private world from which the child comes cannot be underestimated. Middle-class children experience this difficulty less than working-class children. The former often already have a foot in the door of the public world. They have begun to think in abstract ways about a world that they have not experienced, and can use the language of that unknown world. Working-class children often have the shock of the interruption to overcome. Schools must find ways for these children to cross over from the private to the public world. This is the task of pedagogy.

The curriculum must not be sacrificed so that school knowledge is the same as the child's experience. It is in how subjects are taught at school that links can be made between the private and public world of the child. But the link to the private world of the home must not stop the interruption happening. The knowledge taught in academic school subjects will, in the end, sever the link to an extent as each person develops a new public identity. But this is a price worth paying. In doing so, different links are made possible: links to worlds beyond the family, beyond the kin-group, beyond the confining world of experience, and into the public world of the democratic polity and its intellectual life.

Conclusion

This chapter has made the argument that national education systems must serve democracy if these societies are to continue. Socialising children into the epistemic knowledge that enables all children to think in complex ways develops the form of thinking, the doubt, and criticism required to serve as citizens. The critical capacity generated by thinking in abstract ways is used to hold the system accountable. That link between powerful knowledge and political activity is at its most intense in the humanities. It is these subjects, particularly history, literature, and the arts, that serve two purposes. They are the raw material of the progressive modern nation creating the symbols of the nation's existence and purpose. They are the content of a discipline. Within this dual purpose, it is the task of disciplinary procedures to ensure that the subject does not descend into ideology but remain contested, thereby retaining a generative capacity in the service of democracy.

The attack by globalised capitalism and its elites has undermined, perhaps fatally, the political project of democratic nationalism. It is not surprising that the humanities are most vulnerable. The weakening of the nation-state includes the weakening of its symbolic resources – resources provided by those very disciplines. History appears to be most at risk. Reframed as a political ideology of interest group 'narratives', history has lost its claim to be the powerful knowledge that enables us to conceptualise the temporal context of human endeavour from outside our own experiences. As a consequence, not only is history's epistemic integrity at stake, so too is its crucial role in maintaining the idea of the modern nation. With a weakened nation as the site for democracy, the economic imperative of the global market exerts increasing control over

national education systems. It is the return of the pre-modern, the world ruled by elites who use a powerful blend of 'culture' and 'technology', a virtual romanticism to justify inequality and privilege. Education systems that contribute to reactionary modernism, to a technological dark age, do so by replacing a curriculum based on the products of the human mind (Popper, 1978) with an instrumental education that understands knowledge as a process.

6

Risky Business: The Marginalisation of Knowledge in American Education Reform Since *A Nation at Risk*

Brian Barrett

> The most durable way to improve schools is to improve curriculum.
>
> Diane Ravitch (2010, p. 225)

The strength of the link between education and the economy has long been called into question within the sociology of education (Collins, 1977; Brown et al., 2012). Within the circles of public policy and opinion, however, the education system is often identified without question as a prime suspect in explanations of lagging economic performance. Baker and LeTendre (2007) observe that, accordingly, '[A] national ministry of education is never heard publicly proclaiming that everything is just rosy in the nation's education system' (p. 234). Instead, national education crises 'start as easily as the common cold spreads': the right 'sneeze' in public is enough to initiate a cycle of reaction and reform intended to stave of what is perceived as 'pending . . . educational doom' (p. 235).

In the United States this phenomenon can be traced at least as far back as 1959, when the Woods Hole Conference spurred a massive wave of discipline-based reform of science and mathematics education in direct response to the Soviet Union's launch of Sputnik two years earlier. Later, in the midst of a recession that signalled the end of the post-Second World War economic boom throughout much of the West, the front page of the *New York Times* (Fiske, 1975) highlighted a decade of falling scores on the Scholastic Aptitude Test (SAT), prompting the test's administrating board to commission an investigation of this trend (College Entrance Examination Board, 1977).[1]

More recently, the cyclical release and popular analysis of data from international achievement tests like the Trends in International Mathematics and Science Study (TIMSS) and the Programme for International Student Assessment (PISA) have served as the 'germs' responsible for triggering reform sneezes. American students' comparatively low level of performance on these international examinations has prompted widespread concern over the nation's ability to compete economically with others around the globe. For example, a recent campaign sponsored by Exxon and figuring prominently on American television throughout the 2012 Summer Olympics presented information about the United States' 2009 PISA rankings (17th in the word in science, 25th in mathematics) in a variety of formats (such as footage of the moon landing accompanied with a voiceover asking 'What if we weren't first?', the podium at an Olympic medals ceremony with the United States placing well out of contention) and centred on the slogan 'let's solve this'.

However, the definitive moment in this trend towards education-related 'moral panics' was the release in 1983 of the National Commission on Excellence in Education's *A Nation at Risk* (ANAR) report under the leadership of Ronald Reagan's Secretary of Education, Terrel Bell. The report opened with a sensational introduction proclaiming that

> Our nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world.... We report to the American people that... the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. What was unimaginable a generation ago has begun to occur – others are matching and surpassing our educational attainments.
>
> (National Commission on Excellence in Education, 1983, p. 113)

The report goes on to claim that 'if an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war'. Instead, the report concludes that 'we have allowed this to happen to ourselves' and argues for content-driven, standards-based reform geared towards restoring the nation's 'sight of the basic purposes of schooling' (National Commission on Excellence in Education, 1983, p. 113).

This chapter seeks to outline how, despite the clarion call issued by ANAR, a series of educational reform efforts in the United States

since then have contributed to the marginalisation of powerful content knowledge in the curriculum and exacerbated long-standing structural inequalities in students' access to it. Rather than addressing the unequal access to a challenging curriculum rich in subject knowledge that characterises the American education system and goes some way in explaining its declining international standing, education reform in the United States has instead favoured managerial solutions heavy on test-based accountability and choice. The chapter concludes by suggesting from a social realist perspective that the Common Core State Standards (CCSS) recently adopted in 45 American states present both important possibilities and potential pitfalls in the quest to promote more equitable access to powerful knowledge nationwide.

A Nation at Risk

The American educational historian Diane Ravitch (2010) describes ANAR as the 'all-time blockbuster of education reports' in the United States: 'Its conclusions were alarming, and its language was blunt to the point of being incendiary' (p. 24). Characterising the excesses of the educational progressivism partially characteristic of the 1960s and 1970s[2] as 'an act of unthinking, unilateral educational disarmament', the report lamented 'squandered . . . gains in student achievement made in the wake of the Sputnik challenge' (National Commission on Excellence in Education, 1983, p. 113). ANAR thus argued that the government must tighten control and restore standards in order to produce a workforce skilled enough to compete with 'determined, well-educated, and strongly motivated competitors' (p. 114) from around the world. It emphasised the importance of a coherent curriculum. Based on the premise that 'what students learn is of great importance . . . and cannot be left to chance' (Ravitch 2010, p. 29), ANAR signalled the birth of the 'standards' movement in American education. In addition to 'rigorous and measurable standards' (National Commission on Excellence in Education, 1983, p. 125), ANAR promoted increased graduation requirements (most particularly in English, mathematics, and science), longer school days and years coupled with more effective use of instructional time, improved teacher preparation, and political leadership and fiscal support to ensure that standards were being met.

Ravitch stresses that ANAR was also notable for what it did *not* say. In contrast to more recent reforms detailed later, ANAR

> did not refer to market-based competition and choice among schools; it did not suggest restructuring schools or school systems. It said nothing about closing schools, privatization, state takeover of districts, or other heavy-handed forms of accountability . . . because these were not seen as the causes of low performance.
>
> (2010, p. 25)

Instead, the report focused on problems intrinsic to schooling and argued that the primary cause of the nation's inadequate academic performance 'was the steady erosion of the *content* of the curriculum' which must be 'dramatically improved for *all* children' (Ravitch, 2010, p. 25).

Demonstrating the lasting influence of ANAR, the successive presidential administrations of George H.W. Bush, a Republican, and Bill Clinton, a Democrat, each called for national content standards. However, neither anticipated the controversy and political turmoil that would surround their efforts. Bush's America 2000 programme (which directly referenced ANAR) was never authorised by a Democratic majority in Congress. Meanwhile, in drafting its Goals 2000 legislation, the Clinton administration balked in the wake of 'intense, bitter media debates' surrounding the attempt to develop national history standards (Vinovskis, 2009, p. 126) and instead encouraged each state to develop its own standards and tests. These tended to remain quite vague with regard to curriculum content and the assessments with which it was to be aligned.[3] A decade on from ANAR the discussion of national content standards had effectively been silenced (Vinovskis, 2009).

The marginalisation of knowledge in American education reform

The collapse of the standards movement that had been launched by ANAR created a void in the realm of American education reform. On one side of this void have stood many from the progressive academic left who, in writing off academic knowledge as simply the 'knowledge of the powerful' and failing to address 'real problems with their assumptions about knowledge and the curriculum' (Young, 2008c, p. 2), have effectively made themselves irrelevant in curriculum debates at the level of policy. In fact, one response to the seemingly relentless generation of relativising discourses from within the field of educational studies in the United States has been a rejection of its enterprise and, particularly,

of its centrality within programs of teacher education by policy makers. Former New York State Commissioner of Education David Steiner, for example, has called courses in the foundations of education 'intellectually barren' and 'too focused on [the] indoctrination' (Steiner and Rozen, 2004, p. 147) of students into what are at the very least implied to be 'highly skewed and radical ideologies' (Butin, 2004). Similarly, current United States Secretary of Education, Arne Duncan, has advocated turning 'upside down' teacher education programs which, he contends, typically overemphasise 'theoretical coursework' (U.S. Department of Education, 2010). Consequently, systematic study (or, for that matter, *any* study) in the foundations of education within most teacher education programmes in the United States (and elsewhere; see Beck (2012b) for a discussion of similar trends in England) has become increasingly rare (Butin, 2007).

The other side of this void has been occupied by what Elizabeth Rata (2012b) has termed 'less progressive forces' (p. 83). Importantly, while ANAR focused most specifically on the need to improve curriculum content, the report also contributed to a crisis mentality and served to solidify a developing interest in the reform of public education among the nation's business elite by claiming that the failure of public schools was the primary cause of national economic recession. Kumashiro (2012) details, for example, how a group of conservatives (particularly philanthropists with family business fortunes) joined together to form the Philanthropy Roundtable in response to the 1971 release of a memo to the US Chamber of Commerce from soon-to-be US Supreme Court associate justice Lewis Powell alleging a 'liberal attack on the American "free enterprise" system and on American democracy itself' (p. 64). In the decades to follow, the Philanthropy Roundtable 'developed interconnected funding priorities and strategies to advance public-policy agendas that were pro-business and anti-social welfare' (p. 64). A top priority was privatising public education, 'considered by some to be a drain on the government and a crutch for society, not only because it was the most expensive of domestic enterprises but also because it exemplified a socialist enterprise' (Kumashiro, 2012, p. 65).

Nationally, a number of the most influential conservative foundations (including the Lynde and Harry Bradley Foundation, the largest conservative foundation in the country, and the Walton Family Foundation, created by the heirs of Sam Walton of Walmart, the world's largest corporation) have been involved in various education policy initiatives. These have most often supported, to the tune of hundreds of millions of dollars, school privatisation and accountability through the use of

standardised tests to measure student and teacher performance, with associated penalties and sanctions for failure. These foundations have targeted funding 'to organizations that aggressively lobby in state legislatures and Congress . . . thus ensuring that their ideas are enacted into law with public support' (Kumashiro, 2012, p. 67). Likewise, they have entered enthusiastically into the practice of venture philanthropy, using their donations as 'investments' in the push for the privatisation of public education and directly influencing the decisions of their grantees, particularly by setting goals for them and evaluating the progress made towards attaining these goals to ensure that their priorities are met. Two leading venture philanthropies, the Gates Foundation and the Broad Foundation, have invested heavily in support of initiatives to promote school choice and charter schools, as well as for incentive pay and alternative routes to certification for teachers and school leaders. The hands-on role of the venture philanthropists 'allows them to more directly and substantially impact public policy, especially in a climate where their financial aid is so desperately needed' (Kumashiro, 2012, p. 70).

While many of those who could be seen to constitute these 'less progressive forces' have largely taken for granted or simply ignored issues of content knowledge and curriculum, their promotion of choice and accountability have effectively gained widespread public and political support, serving to define and shape education reform for more than two decades. This is perhaps best exemplified by George W. Bush's No Child Left Behind (NCLB) Act, which was signed into law by an overwhelming bipartisan majority in 2002. It is premised on the belief that setting targets for performance on high-stakes standardised tests and imposing sanctions and increased market competition for schools that do not meet these targets will force schools to either improve or perish. In this respect, NCLB is following a global trend of neoliberal policy responses by a number of developed economies to what they perceive to be the demands of globalisation and increased economic competition.

By making standardised test scores the primary measure of school, teacher, and student performance, NCLB erroneously assumed that forcing schools to report test scores to the public would serve as a foolproof lever for effective school reform, that 'shaming schools that were unable to lift test scores every year – and the people who work in them – would lead to higher scores . . . [and] that higher test scores on standardized tests of basic skills are synonymous with good education' (Ravitch, 2010, pp. 110–11). It also resulted in a narrowed curriculum in many schools where anything outside of reading and mathematics (the two areas subject to mandated testing under NCLB) came to be considered as

expendable in schools' efforts to reach their pass rate targets and avoid penalties and sanctions. Ravitch (2010) notes that

> even in these subjects, instruction gave way to intensive test preparation. Test scores became an obsession. Many school districts invested heavily in test-preparation materials and activities. Test-taking skills and strategies took precedence over knowledge. (p. 107)

Linda Darling-Hammond (2010), a leading expert in American and comparative education reform, notes that issues of equity arise as schools serving large numbers of low-income students are most likely to gear teaching towards

> lower-order rote skills – memorizing pieces of information, conducting simple operations based on formulas or rules, and filling out short-answer and multiple-choice worksheets.... Students in schools that organize most of their efforts around the kinds of low-level learning represented by most widely used tests are profoundly disadvantaged when they need to engage in extensive writing, critical thinking, and problem-solving required in college and the workplace.
>
> (pp. 281–2)

It is also within these schools that decisions to focus on some students at the expense of others depending on whether or not they are seen to have the potential to enhance their school's pass rate in a process that has been termed 'educational triage' (Gillborn and Youdell, 2000; Booher-Jennings, 2006) are most frequently made. Likewise, faced with demands to raise test scores and penalties and sanctions if they fail to do so, these schools have increasingly turned to suspension and grade retention in an effort to bolster their pass rates by pushing out or otherwise excluding their lowest performing students. Those students most frequently 'left behind' as a result of these practices include low-income students, students of colour, students with disabilities, and English language learners who are often least likely or least able to contest their schools' decisions and authority.

Perhaps most problematically, and continuing in the tradition established by the Clinton administration's Goals 2000 legislation, NCLB left each state to create their own standards and to develop and implement their own tests. As a result, 'there were significant differences in how demanding those standards were from one state to another... [and] in

how states defined proficiency for math and reading' (Vinovskis 2009, p. 174). The standards movement launched by ANAR argued in terms of equity that unequal access to knowledge had a disproportionately negative impact on the very groups of students that have been historically marginalised and most often closed off from a college preparatory curriculum within the education system (Chenoweth, 2009). Conversely, due to the decision of more recent reforms such as Goals 2000 and NCLB to leave the issue of content standards up to the states, 'American children simply are not likely to have equal educational opportunities as defined at the most basic level of equivalent content coverage' (Schmidt et al., 2010–2011, p. 13). Too frequently, 'whether a student is even exposed to a topic depends on where he or she lives' (p. 13). Across the United States, students' social backgrounds are significantly related to the opportunity to cover content. As a result of both segregation between schools and systems of tracking and sorting within them, there are large race- and class-based differences among students in course-taking, particularly in subjects such as mathematics and science. Schools serving large numbers of low-income, African American, Latino, and Native American students are frequently found to be 'bottom heavy', offering fewer academic and college preparatory courses and more remedial and vocational courses that tend to train specifically for low-status occupations, such as cosmetology and sewing (Darling-Hammond, 2010, p. 52).

One of the more important findings stemming from the analysis of data collected through TIMSS (the international assessment identified earlier as a 'germ' responsible in part for sparking cycles of education reform and moral panics!) is that student performance is directly related to their opportunity to cover academic content (Schmidt, 2008). The strong correlation between students' social background and their levels of educational achievement is mediated by the key learning opportunity presented by access to content. In many currently high-achieving nations such as Finland and South Korea, the power of the correlation between students' background and achievement has been diminished in the wake of efforts to provide all students with access to an academically rigorous common curriculum. Meanwhile, in the United States, unequal access to high-level courses and challenging curriculum explains much of the link between students' background and achievement (Darling-Hammond, 2010). The implication here is that curriculum, and equal access to it, matters significantly in its own right. By adopting focused, rigorous, coherent, and common content standards, the United States could do much to equalise students' opportunity to cover content and,

in doing so, to minimise the link between students' background and their levels of educational achievement (Schmidt et al., 2010–2011). However, Ravitch (2010) concludes that, in shifting the focus of education reform from content standards to a form of technocratic structural reorganisation underpinned by test-based accountability that served to subvert education's most central goals, NCLB 'ignored the importance of knowledge .... In the age of NCLB, knowledge was irrelevant' (p. 29).

The Common Core State Standards: Bringing knowledge back in?

It is noteworthy that, spurred by the possibility of funding under the Obama administration's recently implemented multi-billion dollar Race to the Top initiative, 45 states and the District of Columbia have adopted the CCSS released in 2010 with the sponsorship of the National Governors Association and the Council of Chief State School Officers and set for full implementation beginning with the 2014–2015 school year. In many respects, Race to the Top appears problematic in rewarding states and school districts with money most particularly for following central aspects of NCLB's neoliberal reform agenda by increasing school choice (mainly through the creation of charter schools) and tying teacher evaluations to their students' performance on standardised tests. However, the CCSS have the potential to promote greater equity in students' opportunity to learn by focusing on the selection and transmission of knowledge, rather than on accountability and management fads, as the crucial element intrinsic to the educational process (Schmidt et al., 2010–2011). They can form the basis of much stronger, more coherent, and explicit curricula in the United States.[4] As Rata (2012b) notes, 'In the absence of specific detail about content in subjects ... the student is left "thinking," "understanding," "examining", "exploring," and all the other verbs that denote doing something with knowledge but without referring to the actual knowledge that is the raw material for the action' (p. 131). Additionally, the CCSS provide the increased detail and guidance in terms of knowledge structure and sequence characteristic of high-achieving countries. When such progressions are not addressed, both teachers and students 'are left unsure as to appropriate content, sequence, pacing and evaluation' (McPhail, 2012b, p. 325) in the curriculum.

However, the question remains as to whether or not the CCSS provide an avenue for promoting students' access to *powerful* knowledge. As detailed earlier (see Chapters 2, 3, and 4, this volume), powerful

knowledge 'provides more reliable explanations and new ways of thinking about the world and acquiring it and can provide learners with a language for engaging in political, moral, and other kinds of debates' (Young, 2008c, p. 14). Young and Muller (2010a) have suggested that in order to provide access to powerful knowledge, a curriculum must be based on *concepts* as opposed simply to facts. Young (2011) argues that concepts 'must be linked to the contents that give them meaning and to the skills involved in acquiring them' (p. 269). The acquisition of concepts promotes *agency*, not just induction, among students. Rather than approaching curriculum knowledge as passive, conservative, and valuable because it tells students how to *be*, or as relative and arbitrary in telling students what they already know, a social realist approach is active, emergent, and progressive. It conceptualises knowledge as valuable because of what students can *do* with it in its powerful capacity to develop critical thinking and take them beyond their experiences (Wheelahan, 2010; Rata, 2012b).

Promisingly, the mathematical progressions presented in the CCSS appear to be especially coherent, evidence based, and stress the conceptual understanding of key ideas. For example, kindergartners are expected to begin learning how numbers correspond to quantities before moving on to fractions and negative numbers in primary school and, in secondary school, to mathematical modelling through the use of statistics to analyse, understand, and make decisions in empirical situations. However, despite discussion of a 'staircase' of increasing complexity with regard to what all students should be able to read and write, the English Language Arts standards appear to offer much less in terms of conceptual guidance. They promote instead, for example, 'thoughtful engagement with high-quality literary and informational texts'. They focus overwhelmingly on the development of generic skills (for example, kindergartners should be able to ask questions about unknown words in a text) as opposed to the organisation of the subject into the well-theorised, internally coherent set of principles and concepts (such as the use of metaphor) that can be explicitly taught, modelled, and analysed in promoting students' subject knowledge and their ability to access and employ *vertical* discourse (Bernstein, 1990). Additionally, following the precedent set by the assessments mandated under NCLB, standards have currently only been developed in mathematics and English Language Arts (though the English Language Arts standards (National Governors Association & Council of Chief State School Officers, 2010) claim to promote literacy in history/social studies, science, and technical subjects). Such a narrow and restrictive conception of

essential curriculum subjects is unlikely to promote the development of a strong sense of self or society for students (Beck, 2012b).

The most significant obstacle to a successful and empowering implementation of the CCSS seems to stem from a continuing insistence on tying the CCSS to high-stakes testing and teacher evaluation in line with requirements for receiving funding through Race to the Top. As Rata (2012b) notes, '[i]nstead of the value of knowledge being derived from its generative principles and concepts, its value is susceptible to becoming dependent on how it can be measured' (p. 131). In April 2013, New York State even rushed forward with high-stakes tests based on the CCSS *before* many students had been exposed to the new curriculum. Two-thirds of teachers polled in the state said that their students did not have access to textbooks and other materials aligned to the common core while 38 percent said their district had promoted professional development to a 'low degree' or 'not at all' (Saunders, 2013, p. 12) prior to the tests.

These are issues that must be addressed and resolved by policy makers, parents, and educators alike if the CCSS are to fulfil their potential as a return to a focus, derailed by decades of attention to accountability and choice in the wake of the clarion call issued by ANAR, on the curriculum and powerful content knowledge as the crucial element intrinsic to the educational process.

Notes

1. The investigation ultimately pointed to processes *within* schools rather than simply to the changing demographics of those taking the SAT as many initially speculated (College Entrance Examination Board, 1977). Significantly, the commission appointed by the College Board 'concluded that changes in the schools' practices had contributed to the steady slippage of SAT scores .... Students were taking fewer basic academic courses and more fluffy electives; there was less assignment of homework ... less thoughtful and critical reading and ... [less] careful writing' (Ravitch, 2010, pp. 23–4). These findings are very much in line with the concern of social realism in the sociology of education to promote a focus on what Basil Bernstein (1990) has termed relations *within* education as a complement to the sociology of education's long-standing focus on relations *to* education. The latter accounts for how the pedagogic subject is positioned 'in terms of his/her social class, gender, racial attributes, or any other discriminating attribute' with relation to the 'privileging text' (Bernstein, 1990, p. 172) represented most directly by the dominant curriculum and pedagogic practices. The former refers to 'the rules whereby the "privileging text" has been internally constructed ... which [make] the text as it is, which [give] it its distinctive features, its distinctive relations, its mode of transmission and contextualization ... its mode of construction,

mode of representation, mode of presentation, and acquisition' (Bernstein, 1990, p. 176). In the classroom, a consideration of 'relations within' could include, for example, a focus on what Bernstein (1990) identified as the constitutive elements of the pedagogic process – the transmission of the 'privileging text' in combination with the evaluation of whether or not the text has been successfully acquired – or on the factors regulating the inclusion of particular content in a particular lesson or curriculum.

2. As I.L. Kandel commented in 1939,

   > '[t]he full weight of the progressive attack is against subject matter and the planned organization of a curriculum in terms of subjects' (78). As such, Rata (2012b) notes that one outcome of 'the absence of specified content knowledge is that what is actually taught is left to the vagaries of school choice, or to a teacher's arbitrary knowledge, or . . . to the students' "interests" ' (p. 131).

3. Schmidt (2008) asks:

   > [W]hy do we have such unfocused, undemanding, and incoherent math standards? I attribute it to the long tradition in the U.S. of shared responsibility in curriculum decision-making, as well as a complex decentralized arrangement for schooling and curriculum development. What many other countries take for granted is problematic, and political, in the U.S. . . . . Unfortunately, standards setting in the U.S. is more conducive to politically motivated, ad hoc approaches to content than to discipline-based ones (p. 23).

4. As Senechal notes, the CCSS make clear that they are not a curriculum: 'while the Standards make references to some particular forms of content, including mythology, foundational U.S. documents, and Shakespeare, they do not – indeed, cannot – enumerate all or even most of the content that students should learn. The Standards must therefore be complemented by a well-developed, content-rich curriculum' (Winter 2010–2011, p. 25).

7

The Missing 'Voice' of Knowledge in *Knowledge* and *Skills*

Chris Corbel

Overview

If we live in a knowledge economy, why is it that policy focuses so much on skills? This chapter explores this apparent contradiction through an analysis of the word *knowledge* and its relationship with *skills* in vocational education policy discourse. It begins with a review of the centrality of the theme of differentiation in the emerging social realist tradition in the sociology of education, and the apparent 'de-differentiation' of knowledge and skills in the discourse of the knowledge economy. Applying concepts from lexical semantics the chapter examines the changes in dictionary meanings of *knowledge* and *skills*, their role as keywords in education policy, and their meanings in a sample policy text. The chapter argues that *knowledge and skills* has become a single lexical item in which the word *knowledge* in particular has become 'delexicalised'. This argument is supported by an examination of the phrase *knowledge and skills*, which shows that although *knowledge* still appears in the phrase, the meaning of the phrase is carried by the currently prevailing view of skills.

Differentiation in social realism

A central theme in the social realist sociology of education, knowledge, and curriculum is differentiation. Social realists[1] emphasise the distinctions between knowledge and experience, types of institutions, disciplinary domains, and conceptual knowledge and procedural knowledge.

Reflecting Durkheimian and Bernsteinian influences, the most significant differentiation is made between abstract knowledge and personal

experience. Although this knowledge is produced by individuals within a particular social and historical context, it has emergent properties that allow it to transcend its context and its possessor. This knowledge is typically produced in disciplinary communities located in universities. Such knowledge, rather than the instrumentalist needs of the government, should be the basis of the curriculum. Student interests, on the other hand, belong to the realm of pedagogy. Social realists therefore distinguish between *what* is to be taught (curriculum) and *how* it is to be taught (pedagogy). There is a difference between educational institutions such as universities and schools, which exist to provide education, and other institutions (such as those in the world of work) which exist to provide something other than education. A central purpose of an educational institution is to take the students beyond the world of everyday concepts to more theoretical understandings, whereas a workplace is only able to provide context-bound experiential knowledge. It is this difference that makes abstract subject-based knowledge more powerful in that it allows students to move beyond their immediate circumstances.

There are differences between disciplines, which are more than mere historical artefacts. Each has a particular type of knowledge structure and this affects how it is recontextualised or translated for teaching in school subjects. Though socially based, all disciplines share a commitment to processes that allow for objectivity of the knowledge produced. The purpose of each discipline is to produce objective knowledge about its subject matter. This knowledge is not fixed, nor simply determined by those with social power, but may change over time based on continuing research.

There are differences between what are variously referred to as conceptual and procedural knowledge, disciplinary knowledge and practical skills, or 'know that' and 'know how'. This is of particular significance for vocational education, which must consider occupational as well as disciplinary knowledge. The distinction appears to be captured in the commonly occurring phrase *knowledge and skills*.

These differentiations are under threat. Trends such as the emergence of National Qualifications Frameworks, the shift to learning outcomes, and the move from subject-specific to generic skill criteria in national curricula are based on an assumption of the need for 'de-differentiation' (Young, 2010c, p. 6). The idea of de-differentiation has arisen from the pervasive discourse of the knowledge economy, with its emphasis on concepts such as flexibility and lifelong learning and a focus on skills. The result is the downplaying of the specialised aspects of disciplinary concepts, subject matter, learning sites, and the work of teachers.

The de-differentiation of knowledge and skills

A particularly striking example of de-differentiation is the conflation of the terms *knowledge* and *skills* in vocational education policy. The loss of a distinctive meaning of *knowledge* in particular is odd, given its centrality in the discourse of the knowledge economy. Young calls it

> . . . a problem that is perhaps better expressed as a contradiction. On the one hand 'Knowledge' has undoubtedly become the major organising category in the educational policies of international organisations and many national governments . . . . On the other hand, the category 'knowledge' appears to be used in an almost entirely rhetorical way; the meaning of knowledge is at best implicit and at worst virtually empty of content.
>
> (Young, 2009, p. 193)

The emptying of meaning from key terms in educational policy has been noted by a number of scholars. Beck (1999, pp. 228–9) notes that the terms *new* and *modernise* appear 'empty of significant value commitment' in New Labour discourse. Hasan (2006, p. 214) refers to the 'resemanticization' of terms such as *democracy* and *accountability* in the 'glib-speak' of policy discourse. *Excellence* has been described as undergoing 'dereferentialisation' in the discourse of higher education (Readings, 1996, p. 17).

Young (2009, p. 194) suggests the use of *knowledge* without a clear referential meaning was typical of the New Labour government policy: '. . . it includes everything, it sounds progressive (or at least modernising) but it says nothing substantive'. Whitty (2010, p. 34) refers to a 'slippage of terminology' in the discussion of *knowledge* in the context of school subjects and disciplines. Robins and Webster (1999, p. 222) suggest that what is now referred to as *information* is a dereferentialised version of *knowledge*. Peters' (2001, pp. 7–8) summary definition of the knowledge economy, based on a survey of the literature, makes almost no distinction between *knowledge* and *information*.

Skills, a term commonly associated with *knowledge*, is also changing. Both Canning (2007, p. 23) and Winch (2010, p. 60) identify a problem of the 'conceptual conflation' of different meanings of the word *skills,* as when, for example, *skills* is equated only with techniques or habits. Winch (2010, p. 43) argues that the established, 'paradigmatic' meaning of *skill* is concerned with activities involving dexterity and sensorimotor coordination. Increasingly however, *skills* is used not just in relation to physical activity but also in relation to mental and interpersonal activity

as well. This is supported by Bathmaker, who sees '. . . notions of skill at the present time as embracing generic, personal and any other skills deemed to enhance "employability" '(Bathmaker, 2013, p. 91).

In spite of these passing references, there has been relatively little detailed examination of what is actually happening in a linguistic sense to the meaning of key terms in education policy discourse. Exceptions include examinations of the terms *lifelong learning* (Piper, 2000), the *entrepreneurial university* (Mautner, 2005), *performance*, *competitiveness* and *skills* (Mulderrig, 2008), and *human capital* (Holborow, 2012). Although not addressing policy specifically, Bathmaker (2013) reports on a survey of the understandings of *knowledge* among stakeholders in the development and use of vocational education qualifications. She found uncertainty among stakeholders about the meaning of *knowledge* in curriculum documents and an emphasis on skills rather than knowledge among policy makers. Yet there has been no investigation of *knowledge* and *skills* in vocational educational policy documents. This chapter takes some initial steps towards addressing this need.

Changes in the dictionary meanings of knowledge and skills

Cowie (2009, p. 67) recommends referring to the dictionary as a source of exemplifications of major semantic themes such as changes in word meaning over time. Dictionary meanings are the ones likely to be familiar to non-specialists, such as public servants and representatives of industry, who are increasingly influential in vocational education policy and curriculum development in countries like England and Australia, and are likely to be those meanings that are perceived as 'everyday' and 'common sense'. A comparison of the entries for *knowledge* and *skills* in the same dictionary two decades apart shows the changes that have occurred.

The 1992 Oxford Advanced Learners Dictionary, one of the most widely used dictionaries by language learners worldwide, provides the following definitions of *knowledge*:

(1) understanding: *A baby has no knowledge of good and evil.*
(2) all that a person knows; familiarity gained by experience: *I have only (a) limited knowledge of computers. My knowledge of French is poor.*
(3) everything that is known; organized body of information: *all branches of knowledge, the sum of human knowledge on this subject* (Hornby 1992, p. 501).

In the second and third definitions we can clearly see the differentiation between experience and knowledge emphasised by social realists, with the second focusing on what a person knows as a result of experience, and the third on knowledge as being abstract, implicitly discipline related, and independent of the knower.

The same dictionary two decades later provides the following definition of *knowledge*:

(1) the information, understanding and skills that you gain through education or experience: *practical/medical/scientific knowledge;* knowledge of/about something: *He has a wide knowledge of painting and music. There is a lack of knowledge about the tax system.*
(2) the state of knowing about a particular fact or situation: *She sent the letter without my knowledge. The film was made with the Prince's full knowledge and approval. She was impatient in the knowledge that time was limited. I went to sleep secure in the knowledge that I was not alone in the house. They could relax safe in the knowledge that they had the funding for the project. He denied all knowledge of the affair.*
(3) knowledge economy/industry/worker working with information rather than producing goods: *the emergence of consultancy as a knowledge industry; the shift toward a knowledge economy* (Oxford University Press, 2013).

In comparing the 1992 version with the 2013 version several things are immediately obvious. There is no longer a differentiated view of *knowledge*, such as was represented by the second and third of the three meanings in the earlier edition. *Skill* is now included in the definition, but is undifferentiated from *knowledge*. Also undifferentiated are *education* and *experience*. It is all knower-based. It is what 'you' gain. The purpose of knowledge is now framed within the discourse of the knowledge economy, which has become the primary reference point against which the application of knowledge is judged.

Skill, on the other hand, has undergone a more subtle change. The earlier (1992) definition is

(1) (at something/doing something) ability to do something well: *show great skill at driving, telling stories, playing billiards*.
(2) particular type of skill: *the practical skills needed in carpentry* (Hornby 1992, p. 853).

The focus is on manual or verbal dexterity.

The current, online, definition of *skill* is

(1) the ability to do something well: *The job requires skill and an eye for detail;* skill in/at something/doing something: *What made him remarkable as a photographer was his skill in capturing the moment.*
(2) a particular ability or type of ability: *We need people with practical skills like carpentry; management skills* (Oxford University Press, 2013).

There is a subtle 'conceptual inflation' (Winch, 2010) of meaning in the current definition. The reference to carpentry remains, but the change from driving, story-telling, and billiards to 'capturing the moment' suggests a move towards a view of skill as a form of insight or creativity as much as manual or even mental dexterity. The addition of 'management skills' also serves to broaden the definition to include, presumably, personal and interpersonal as well as mental skills.

In this case it is clear that the dictionary is capturing a change in meaning of both *knowledge* and *skills*, with *knowledge* subtly contracting and *skills* subtly expanding in scope. This suggests that the changes of meaning noted by commentators on the language of education policy are a reflection of similar changes in meaning taking place in the wider world.

Knowledge and skills as keywords in policy

We have examined *knowledge* and *skills* in the dictionary. We now turn to a sample policy document to see which meanings can be found there. The document is *Knowledge and Skills for the Innovation Economy* (Kosky, 2002), which was a major statement on Vocational Education and Training (VET) by the government of the State of Victoria, Australia. It proposed meeting the challenge of globalisation and technological change by improving the deployment of new knowledge as a key source of comparative advantage, thereby creating an 'innovation economy'. The formal VET sector, which comprises publicly funded Technical and Further Education Institutes (broadly equivalent to Further Education colleges in England), adult education providers, and private providers, would have a key role in this process.

Knowledge and Skills for the Innovation Economy has been chosen for analysis because it exemplifies the 'nodal discourse' of the knowledge-based economy (Fairclough, 2005, p. 55). A nodal discourse is one 'which articulate(s) many other discourses (for example, those we can

sum up with the labels "lifelong learning", "social exclusion", "flexibility")' (Fairclough, 2005, pp. 55–6). This document is a node for the discourses of *knowledge*, *skills,* and *innovations*. The present analysis is focusing on *knowledge,* though inevitably there will be overlap with these other discourses, particularly *skills*.

Judging from the title, *knowledge* is clearly likely to be pivotal within this document, as is *skills*. As such, each may be considered a 'keyword'. There are two main types of analysis of keywords in the educational policy literature (Stubbs, 2010). On the one hand there is the qualitative approach, in the style of Raymond Williams. Williams' work is essentially introspective and interpretive. His purpose was

> . . . to analyse, as far as I could, some of the issues and problems that were there inside the vocabulary, whether in single words or habitual groupings. I called these words Keywords in two connected senses: they are significant, indicative words in certain activities and their interpretation; they are significant words in certain forms of thought.
> (Williams, 1976, p.13)

Following this tradition this chapter is concerned with the 'issues and problems' relating to *knowledge*, which are 'significant' for the development and social distribution of knowledge through the vocational curriculum.

A second meaning of 'keyword' comes from the quantitative approach of corpus linguistics (Barlow, 2011). In this approach a large number of electronic texts are analysed to identify which words are prominent or 'key'. Linguists can now use computer-assisted analyses of dozens or hundreds of texts to reveal patterns beyond the capacity of any individual reader to identify. These patterns exist at a level between words and sentences, and are thought to have a far stronger effect on language use than linguists had previously assumed (Sinclair, 2004).

A keyword analysis can begin with the search for the keywords across a large number of texts, or begin with a pre-identified keyword and use the keyword as the basis of the analysis, or combine both approaches. The resulting 'discursive profile' (Mautner, 2005) of the keyword, complemented by an analysis of its context, provides insights into the keyword's meanings. The present analysis begins with the pre-identified keywords, *knowledge* and *skills*. The analysis utilises concepts from lexical semantics, which is the study of the meaning of words (Stubbs, 2001). The meanings internal to a word, its propositional meanings, are its 'denotations'. These meanings are a word's links to objects in the

world. The more expressive meanings of a word are its 'connotation(s)', the associations a word has for an individual or community. A related concept is 'reference', which is whichever of the potential denotations or connotations is manifested in a particular context. Another set of meanings, which are external to the word, derive from its 'collocations', the other words with which the word commonly occurs (what Williams (1976) called 'habitual groupings').

The primary analytical technique is the computer-based presentation of a text as a 'concordance', a line-by-line display of the text with the keyword at the centre of each line. This format facilitates the identification of all occurrences of the keyword, the checking of its referential meanings in context, and the examination of its collocations. The concordance allows the user at any time to revert back to the original text to examine the context of an occurrence of the keyword. The following analysis is based on the examination of a concordance of *Knowledge and Skills for the Innovation Economy* carried out using WordSmith Tools (Scott, 2013).

Meanings of knowledge and skills in a policy text

Reference is to do with which denotation or connotation of a word is invoked on any particular occasion of its use. In normal circumstances the context of use makes the reference of a word clear. However, an examination of each occurrence of *knowledge* in the sample text reveals that this is not the case. *Knowledge* appears in the text 43 times. There are 7 occurrences in the first column on the first page alone. Yet, typical of such policies, *Knowledge and Skills for the Innovation Economy* fails to make distinctions between the terms it frequently uses, fails to define the key concept itself, and lacks empirical evidence for the claims it makes (Peters, 2001, p. 13).

Instead of definitions and explanations, the sample text contains a collection of assertions about knowledge. Recurrent 'motifs' (Mautner, 2005) in these assertions are to do with the changing relationships between knowledge and work, industry, and individuals. The workplace is where knowledge is said to be created and applied. The implication is that knowledge creation is practice based rather than theory driven and that its creation and application occur simultaneously. The implication is also that there is little or no knowledge creation carried out within vocational education institutions, only within industry. Creating, acquiring, and applying knowledge are de-differentiated, as are concepts, explanations of concepts, and evidence for claims. *Knowledge*

is thus separated from its own meanings (de-referentialised) while being conflated with other meanings (de-differentiated).

The absence of reference to a clear denotational meaning suggests that it is likely to be connotation, not denotation, that matters more in *Knowledge and Skills for the Innovation Economy*. This is the type of meaning to which Young is referring here:

> . . . despite its multiple meanings and absence of any referents, the word knowledge does retain a public association with ideas such as certainty, reliability and objectivity and even truth. Reference to knowledge therefore provides a kind of authority for policies that do not have to be justified in other ways. The authority of the term knowledge is taken over but not the basis of its claims.
>
> (Young, 2009, p. 194)

In the absence of any clear reference to a denotational meaning it is likely that it is the word's connotation that carries substantial meaning in any particular text. *Knowledge* has generally positive connotations within the education community. As Robertson (2008, p. 42) puts it, 'Who can be against knowledge'? If there is no clear denotational meaning, it could well be that *knowledge* is included in the text not for what it means but for the positive associations it invokes in the reader.

Another source of meaning is the relationships between words in the immediate vicinity of each other within a document. This is 'collocation', the patterns of co-occurrence of words in texts. The significance of collocation is that words which frequently co-occur 'can become fixed phrases that represent a packaging of information. Such phrases thus become entrenched in language use, and the information within them becomes difficult to pick apart or criticise' (Baker 2010, pp. 127–8). Hunston (2002, p. 119), for example, suggests that the frequent collocation of *illegal* and *immigrant* may 'prime' people to associate the two meanings when only the word *immigrant* is used, although Baker (2010, p. 128) notes that the nature of this process is contested.

The word *knowledge* appears 43 times in the sample text, including headers and titles. Excluding function words like *and* and *the*, and proper nouns like *Victoria*, its most significant collocates, that is, the content words most frequently co-occurring within a range of three words on either side, are shown in Table 7.1.

By far the most frequent collocate is *skills*. Excluding headers and titles, *knowledge* appears in the text just ten times without the co-occurrence of *skills*. No other words come close to that frequency.

Table 7.1 Most frequent collocations of *knowledge*

Keyword	Collocate	Number of co-occurrences with ***knowledge***
Knowledge	Skills	34
	Innovation	26
	New	6
	Apply	4
	Develop	3
	Creation	3

Table 7.2 Most frequent collocations of *skills*

Keyword	Collocate	Number of co-occurrences with ***skills***
Skills	Knowledge	34
	Economy	25
	Innovation	25
	Generic	17
	Need	13
	New	12

Even the word *economy*, which appears in the title, does not co-occur with *knowledge* in the body of the text. Although the terms *new*, *apply*, *develop*, and *creation* are used in association with *knowledge*, as we saw above they refer to activity in the business sector, not the educational sector.

The word *skills* appears 104 times in the sample text. Its most significant collocates are shown in Table 7.2.

We see in both tables that *knowledge* co-occurs with *skills* 34 times. However, knowledge only occurs 10 times without *skills*, while *skills* appears 70 times without the co-occurrence of *knowledge*. If we exclude the 20 occurrences of the document title in headers, and focus on the body of the document, *skills* co-occurs more often with *generic* (17) than it does with *knowledge* (14); *knowledge*, on the other hand, does not co-occur with *generic* at all. The most common shared collocate for both *skills* and *knowledge* is *new*, a term already identified as increasingly empty of content. All of this suggests a greater breadth of connection and potential impact in the text for *skills,* and a lesser role and lower impact for *knowledge*.

The phraseology of knowledge and skills

This chapter is arguing that changes in meaning of *knowledge* and *skills* are not simply manifested internally within each word, but are likely to be the result of their constant collocation with each other, such as we have seen in the sample text. *Knowledge* and *skills* are thus changing not just individually but as a consequence of their merging into the phrase *knowledge and skills*. To see how this is happening we now turn to an examination of *knowledge and skills* as a single lexical entity.

Mainstream linguistics has traditionally focused on sounds, words, and sentences as the basic units of meaning in language. However, there is also a long tradition in linguistics that argues for the importance of the phrase, a unit of meaning between the word and the sentence (Firth, 1973; Stubbs, 2001; Sinclair, 2004; Ellis, 2008; Wray, 2012). The remaining part of the chapter uses concepts from phraseology to explain what is happening to the words *knowledge* and *skills* in the phrase *knowledge and skills*.

We have seen that the two words *knowledge* and *skills* occur more frequently together than with other terms in the sample text. To understand their relationship better we need to examine the frequency of the two possible sequences in which they occur. Words which are found together repeatedly in a sequence are called a 'cluster'. 'Clusters are words which are found repeatedly together in each others' company, in sequence. They represent a tighter relationship than collocates, more like multi-word units or groups or phrases' (Scott, 2013). Table 7.3 shows the number of occurrences of each sequence.

As Table 7.3 shows, *knowledge* occurs in just one cluster, as *knowledge and skills*, 27 times. *Skills and knowledge* appears 4 times, which is not frequent enough for this collocation to be considered a cluster.

The implication of three words being identified as a cluster is that they may be in the process of becoming fixed into a single lexical entity (Stubbs, 2001; Sinclair, 2004). To understand this process we need to move beyond thinking about individual words and instead think about 'lexical items' as the basic entities of lexical analysis. We saw in

Table 7.3 Sequences of *knowledge* and *skill*

Collocations	Number of occurrences	Cluster
Knowledge and skills	27	Yes
Skills and knowledge	4	No

the analysis of *Knowledge and Skills for the Innovation Economy* that the words *knowledge, and*, and *skills* operate independently as three lexical items, but that they also form a frequently occurring cluster. Within a cluster these three lexical items constitute a fourth lexical item, the phrase *knowledge and skills*, which has a meaning independent of its components.

In any phrase which functions as a lexical item it is likely that both words are weakened through partial 'delexicalisation' (Sinclair, 2004, p. 20). A key argument in this chapter is that *knowledge* is becoming delexicalised in the phrase *knowledge and skills,* as in *checks and balances*, for example, where the two words are indistinguishable in meaning. Delexicalisation may or may not apply equally to each word in a lexical item, however. In phrases such as *take a bath*, the word *take* has been delexicalised, that is, it no longer carries the meaning denoted by the verb *take* on its own. Given the much greater frequency of *skills* than *knowledge* in the sample text, it may indeed be stronger than *knowledge* in the lexical item *knowledge and skills,* with the effect of weakening or delexicalising *knowledge* but less so *skills*.

Knowledge and skills as a binomial phrase

Knowledge and skills is an example of a particular type of phrase, a 'binomial', which is a commonly occurring pair of words linked by a conjunction which works within a sentence as the grammatical equivalent of a single word. It is a 'nominal' binomial, in that it is comprised of two nouns and a conjunction. Other examples of nominal binomials include *checks and balances*, *odds and ends*, and *fish and chips*. Examination of the ordering and reversibility of the terms within a binomial phrase can provide further clues to the process of delexicalisation.

Mollin (2012, p. 91) summarises a range of constraints affecting the ordering of the composite terms in binomial phrases. She suggests that semantic factors provide the strongest explanation of which term in a binomial comes first. Semantic constraints are of four kinds, one of which is power. Power, described as 'priorities inherent in the structure of a society' (Malkiel, 1959, p. 145), has received renewed attention in recent years in examinations of mixed-gender binomials such as *men and women* as 'linguistic instantiations of dominance and difference' (Motschenbacher, 2013, p. 213).

A detailed discussion of the ordering constraints manifested in *knowledge and skills* is beyond the scope of this chapter, but, given the policy focus of the discussion, we will focus on power as an ordering constraint.

Since the more powerful term tends to occur first in a binomial phrase, *knowledge* would appear to be more significant than *skills* in the sample text. This seems odd unless we assume that knowledge has become so fully delexicalised that although it usually appears first it is there for its connotational meaning, not its denotational meaning. The situation is analogous to that of *ladies and gentlemen*, in which the weaker term is in initial position, in contrast to the dominant male–female sequence in phrases such as *men and women*. This exception suggests that the words are strongly delexicalised.

A related issue to the ordering of binomials is reversibility. Some binomials, such as *odds and ends*, cannot normally be reversed, giving them a fixed, idiomatic, quality. Others, such as *knowledge and skills*, are reversible, as we saw in the analysis of the sample text, where both sequences appeared. Mollin (2012, p. 81), in her analysis of the British National Corpus, 'found both sequences occurring equally frequently'. She concludes that 'Less reversible binomials (like *rich and famous*) are more likely to satisfy important semantic and metrical constraints than more reversible ones (like *knowledge and skills*)' (Mollin, 2012, p. 102). In other words, there appears to be more freedom in choosing the sequence in reversible binomials like *knowledge and skills*.

In contrast, an examination of the occurrence of both sequences in Google Books[2] from the 1890s to the 2000s revealed 143,489 occurrences of the *knowledge and skills* sequence, compared to 65,743 for the *skills and knowledge* sequence. In other words, *knowledge and skills* occurred roughly twice as often as *skills and knowledge*. This ratio stayed roughly the same for each decade (Davies, n.d.). In the sample text the *knowledge and skills* sequence was nearly eight times more frequent, suggesting a much higher degree of fixedness or 'frozenness' of the *knowledge and skills* sequence in this policy document.

Mollin's analysis is of a general corpus which includes many different styles and varieties and is not limited to any particular subject, field, genre, or register. Google Books ranges across many topics, but only includes books. Thus, while *knowledge and skills* may be highly reversible in a collection of general texts, it appears that within a very large collection of formally published works the *knowledge and skills* sequence is stronger. In the sample document from the sub-field of policy documents the sequence is stronger still. An examination of a larger specialised corpus of policy documents would be required before reaching any firm conclusions about the effect of power on the reversibility of *knowledge* and *skills*.

Discussion

Taylor, Rizvi, Lingard, and Henry (1997, p. 15) note that words in policy texts are 'carefully selected and much revised'. If this is taken to mean that there has been a conscious choice to use one sequence of *knowledge and skills* rather than the other in a policy document, what are the implications of each sequence? In an examination of defence policy discourse, Bastow (2008, p. 154) found the reversible binomial *friends and allies* varied in its connotations according to the sequence, with *friends and allies,* the most frequently occurring sequence, being 'a familiar but conveniently vague phrase', while the use of *allies and friends* may invite more attention being given to the meaning of each word.

The use of the most common sequence, *knowledge and skills*, could therefore be considered 'conveniently vague' and 'politically expedient' (Bastow, 2008), a case of 'strategic vagueness' (Mulderrig, 2012), or 'strategic ambiguity' (Leitch and Davenport, 2007). On the other hand, the use of the less common sequence may provide a challenge to the reader by raising the prominent term to the reader's attention. The writer who chooses *skills and knowledge* may be doing so in order to emphasise the importance of *skills* within the policy.

This assumes, however, that the words are being treated as individual lexical items. But if it is the phrase itself that is being used as a lexical item, as this chapter is arguing, then the words are delexicalised and the sequence is almost, but not quite, fixed. Furthermore, if the sequence happens to be reversed it makes no difference to the meaning. In other words, the sequence is largely irrelevant, since *neither* term is lexicalised. It is as if both terms are so lacking in individual meaning that they can be used interchangeably, as in *checks and balances*. This would account for the occurrence of both sequences occurring in a single text, as in our sample. It would also account for the use of both sequences in the following paragraph:

> In this educational discourse, then, 'learning outcomes' are a proxy for knowledge and skills, the mechanism which delivers them within the university is the 'module' and their successful acquisition is recognized through the award of credit. As with money, it is implicitly understood that a common standard exists so that skills and knowledge can be transferred and exchanges made.
>
> (Trowler, 2001, p. 188)

Here there is no apparent distinction made between the sequences, and the implication is that 'learning outcomes' is a proxy for either or both sequences. This suggests the individual words have indeed lost their meanings and it is the lexical item *knowledge and skill/skills and knowledge*, in either order, that carries a metonymic or simply symbolic meaning.

All binomials 'may cause a blurring of distinctions' (Shapiro, in Bastow, 2008, p. 154) between the composite terms, and *knowledge and skills* is no exception. It is this transition of the words *knowledge* and *skills* from individual words to a single lexical item that is referred to by Young (2009) as the blurring of distinction between them. As the use of *knowledge and skills* becomes familiar and naturalised, so the emptying of meaning of one of its constituent terms, *knowledge,* and the expansion of meaning of *skills* may not be noticed by most users. The word *knowledge* is still present, but an identifiable referential meaning is not only absent, but may no longer be expected or sought. The lexical item *knowledge and skills* now simply means *skills*.

Conclusion

We have seen that in common with other keywords in education policy texts *knowledge* in one particular nodal policy document is 'ambiguous in denotation and rich in connotation, making [it] susceptible to processes of semantic appropriation to suit particular agendas' (Mautner, 2005, p. 95). This ambiguity and richness, both contradictory and problematic, whether intended or otherwise, is clearly of value to the agenda of policy makers seeking to naturalise the knowledge economy discourse within education. Policy is more than text (Taylor et al., 1997, p. 15), but as we have seen, a text can be indicative of wider forces at work.

Young (2009) draws particular attention to the terms *knowledge* and *skills* as having their distinction blurred as part of the denial of a distinct 'voice' for knowledge in education. It has been argued that there are clear indications in one particular vocational education policy document of a linguistic process that can indeed lead to a blurring of this kind. The voice of knowledge is being silenced through its conflation with skills in the lexical item *knowledge and skills*. Knowledge is increasingly simply 'seen but not heard'. This matters because, as Young (2009, p. 195) puts it, 'excluding such a "voice" from educational policy most disadvantages those learners (and whole societies, in the case of developing countries), who are already disadvantaged by circumstances beyond the school'.

Notes

1. The following summary draws on the key social realist works including Muller (2000), Moore (2007), Young (2008a), Wheelahan (2010), Maton and Moore (2010). The social realist argument for the importance of differentiation is exemplified in Young (2009), which provides the main reference point for this chapter.
2. For an explanation of the relationship between the British National Corpus and Google Books, see Sha (2010). This analysis used the Brigham Young University interface to Google Books (Davies n.d.).

Part III

Powerful Knowledge in the Curriculum

8

Pathways to Powerful Knowledge: A Case for Music's 'Voice'

Graham McPhail

> Music has power, or so many people believe. Across culture and time it has been linked with persuasion, healing, corruption, and many other transformational matters. The idea behind these linkages is that music acts – on consciousness, the body, the emotions.
>
> (DeNora, 2003, p. 1)

Introduction

This chapter considers the proposition that music is a form of powerful knowledge and therefore worthy of inclusion in the curriculum. In Chapter 3 of this volume, Young and Muller suggest that powerful knowledge is differentiated from everyday knowledge by certain distinguishing features such as specialisation and structure and, for STEM subjects in particular, by the possibility to make predictions and provide explanations about aspects of the world. I argue that music has these features and in common with the other arts as well.

Bowman (2002) has argued that music is a 'fundamentally social activity grounded in sonorous experience' (p. 75), suggesting certain possibilities that are indicative of powerful knowledge. He goes on to explain that music develops and requires 'improvisational resourcefulness and agility' (p. 75). Furthermore 'the musically engaged person becomes one with the music . . . requiring an attitude of caring and commitment' (p. 75). In this regard music can be a potent tool in the formation of positive individual traits and social identity, as well as enhancing cultural vitality (Bowman, 2005). However, these descriptions are not unique to music's case as powerful knowledge. It is to music's generative concepts that we need to look for its unique essence

and its educational potential as a form of specialised and differentiated knowledge. Alperson (2010), for example, notes 'one of the chief fascinations of music is that its very materials – sounds and their relations – have intrinsic interest' (p. 177). These sonic relations bring music into being as a quasi-syntactical structure which through enculturation takes on expressive meaning. The mechanisms by which music 'works' can be explored in an educational context through sound and symbol, activity and concept.

In Western culture, music is considered to be one of the five fine arts. Within this context it may be described as 'artistic activity in which sensuous objects possessing salient qualities of form, expression, and symbolism, are created by artists expressly for the directed attention of others, for whom these works are thought to repay repeated scrutiny' (Alperson, 2010, p. 172). But of course not all music is conceived as art and therefore 'specialised'. Such a classification is contingent on the intention of the creators; however, it is certainly possible that music conceived primarily as functional or commercial rather than aesthetic (or art) in the modernist sense may turn out to be regarded as art by subsequent generations of listeners and scholars. One need only think of Bach's weekly cantata composed for church, Cole Porter's songs composed for the theatre, or various Beatles' albums which we now recognise as exemplars of the highest artistic merit within their genre. Alperson (2010) argues 'the *variety* of aesthetic experiences is one of the main attractions of music, one of the main reasons why people are drawn to play music and to listen to it' (p. 184, emphasis added). Music education needs to take account of this variety and the potential of both the sonic affective experience and the need to explain and understand that experience. Significantly, it is to music's inherent components that both scholars and aficionados of all styles of music turn to make critical judgements of value in contrast to expressions of preference (Kivy, 1990; Frith, 1996; Covach, 1999; Alperson, 2010; Moore, 2010). While music education needs to acknowledge the huge variety of ways in which music is produced and received, through sheer necessity decisions need to be made regarding inclusion and exclusion, content and pedagogy, both 'what' and 'how'. Just how such judgements might be made should be a central concern of teachers. Curriculum developers might well ask 'What are the most powerful concepts, exemplars, and experiences that music education can offer students'?

In this chapter I use three broad terms in discussing aspects of music's power – experiential, aesthetic, and epistemic. The experiential aspect refers to sensory and corporeal dimensions, which are theorised as being

experienced predominantly in a spontaneous way. The aesthetic dimension on the other hand invites conscious engagement and reflection in relation to music's intrinsic components and effects. The epistemic dimension is knowledge about the collectively developed generating principles, concepts, conventions, and object of the discipline. These dimensions exist in a dynamic web of interaction. I begin by giving a very brief outline of the main ways in which music has been conceptualised in Western philosophical and sociological thought. This provides a context for understanding more fully the implications of 'the turn to the social' and the 'anti-aesthetic' turn in various fields of music study including sociology (DeNora, 2000; Martin, 2006) and music education (Elliott, 1995; Philpott, 2010; Spruce, 2002; 2012 with Matthews). Strong and important as these various arguments are, they leave us with underdeveloped indications for how music might be conceptualised for education beyond local situated preferences of students and teachers. I next utilise Carl Bereiter's (2002) extension of Popper's third-world epistemology to argue a case for the retention of conceptual and theoretical knowledge within the curriculum. I suggest that it is knowledge of music's inherent generative concepts and conventions that provides access to the potential for a wide and critical understanding of music. This knowledge can help explain the affective temporality that seems to give music much of its power and mystery and point to music's potential beyond that of a purely contextualised affective experience. I conclude by suggesting that by retaining sufficient focus on music's generative principles music of any style can be better understood. In this way music education can add a critical dimension, recognising the dialectical relationship between the purely affective experience and the explanatory potential of conceptual knowledge.

Section one

Ways of thinking about music

Music has consistently remained a part of philosophical deliberations throughout Western history. It is, however, with the idealist writings of Enlightenment philosophers and subsequent nineteenth-century Romantic and formalist views that the modern Western account of music emerges. This account suggests Western music's essence and potential value lie in its conception as an aesthetic object requiring aesthetic contemplation. Idealist views project an account of music as ontologically significant, with music providing a unique means to 'reveal reality's innermost secrets, especially because of its special

relationship with the realms of feeling or spirituality' (Bowman, 1998, p. 12). A more formalist stance considers these 'secrets' as part of the inherent logic and structure of music's sonic patterns. Concepts associated with art such as universality, complexity, originality, and autonomy became reified and legitimised, creating an ideology of the aesthetic which points to one essential and universal musical essence (Martin, 2006; Philpott, 2010; Spruce, 2002; 2012 with Matthews).

Unlike philosophical or aesthetic accounts, sociocultural perspectives look to empirical evidence to inform the development of theories that explain music's significance and power. Where idealist views of music consider it a symbol for something beyond itself, sociocultural accounts on the other hand place music firmly in this world and register its significance as a social, psychological, and political force (Bowman, 1998). Martin (1995) identifies two main strands within the music sociology field. The first is characterised by a structural perspective and suggests there is a homology between musical structures and the structures of society. For example, John Shepherd (1991) suggests the 'magnetic pull towards the key-note . . . provides the quintessential articulation of the concept of progress' (p. 124). Moreover, he argues that this homology is an imposed bourgeois ideology, as Martin (1995) explains: 'the ascendency of functional tonality has come about not because it is an expression of the Durkheimian *conscience collective*, but because the dominant class has the power to impose its values and standards' (p. 139, italics in original).

The 'new' sociology of music has moved away from a structural perspective to an interpretive one, examining the ways in which people utilise and consume music in their everyday lives (Martin, 2006). As music has become available as a potential accompaniment to daily life, it has also been utilised as a means to alter mood, to shape social action, and to help define identity and as a referent for consciousness and knowledge production (DeNora, 2000; 2003). Moreover as music has become more prominent in everyday life, a disconnection between its new functions within Western culture and the more traditional aesthetic view has opened up.

Where sociology's account leaves us

Martin (2006) argues that a truly sociological approach to music should put aside any search for essential meaning in musical texts or any concern with issues of aesthetic or artistic hierarchy, the relative merits of works considered art. He argues that the source of authority in any given reading of a text is bestowed by a collective interpretive community at any given time, a social process. Moreover, he argues

'from a sociological perspective that it is this discourse, this framework of legitimation, and the claims it makes and activities it licenses, which are of primary analytical interest, rather than "the music" itself' (p. 39). However, such an argument fails to account for the significance that the sonic components of music have in this process of legitimation (Covach, 1999; DeNora, 2003; Alperson, 2010) or the level of objectivity engendered in its collective, social enactment (Maton and Moore, 2010). There are epistemological dimensions that are pivotal in this process of legitimation.

Within the practices of social interaction that sociologists of music find paramount, there are ways in which musical knowledge is defined with some degree of objectivity by these very communities. A social realist approach within the sociology of education offers a way to accept the socially mediated values of the discipline while seeking out an epistemological justification for what may be of most value to include in the curriculum while remaining aware of how knowledge may come to act ideologically (Maton and Moore, 2010). While meanings are neither arbitrary nor absolute – and despite music's apparent subjective and affective nature – its epistemological essence is rooted in forms of social objectivity (Popper, 1978). As Moore (2010) so clearly argues 'judgements are less than absolutes in that they acknowledge their fallibility. They are more than preferences in that they submit themselves to historically evolved rules of collective evaluation' (p. 152). Frith (1996) also observes that making value judgements is a significant part of popular culture:

> Part of the pleasure of popular culture is talking about it . . . talk which is run through with value judgments. To be engaged with popular culture is to be discriminating . . . . [V]alue arguments aren't simply rituals of 'I like/you like' . . . they are based in reason, evidence, persuasion. (p. 4)

Section two

Understanding music

In this section I argue that it is to music's collectively evolved generative concepts that we need to look for its unique essence and the key to its potential as powerful knowledge for education. It is an understanding of these generative concepts, which are relatively enduring compared to stylistic change, that is significant for education, in particular to provide the potential knowledge to move from the realm of personal subjective experience (*qualia*) to an understanding of socially shared *semantic*

and more objective meanings (Popper, 1978). Such generative concepts could include the organisation and subdivision of time; the construction of melody, modes, and musical space; the use of instruments; and the place of musicians in context (Stock, 2002) and as such are not necessarily concepts limited to the consideration of only Western classical music. Nevertheless as Johnson (2002) suggests Western 'classical music is distinguished by a self-conscious attention to its own musical language . . . [a] concern with its own materials and their formal patterning aside from any consideration about its audience or its social use' (p. 3). This self-conscious attention has led to generative processes which are certainly among the most highly developed we know of in any culture (Weber, 1958b), particularly in regard to the time frame involved in the 'working out' of the musical ideas which Johnson (2002) describes as 'a long-range linearity and development' analogous to literary narrative (p. 36). DeNora (2003) also notes music's unique non-verbal temporal essence: 'music is a medium that unfolds across socially *shared* time' (p. 83, emphasis in original). In this way music is not unlike human thought in its discursive development of ideas in a logical sequence: 'it mirrors the process of negotiation, development, and exchange by which we are extended as individuals' (Johnson, 2002, p. 65). Johnson's arguments concerning epistemological value can be extended beyond the realms of classical music to exemplars in any style of music (Covach, 1999). What is required for education is a flexibly evolving 'canon' that teachers use to guide students to a critical awareness of the musicing judged most compelling within given musical practices, genres, styles, and cultures.

Within and beyond the West, tonality has become a pervasive and widely adopted music concept and understanding this system of musical organisation is fundamental to understanding much of music's power. Western tonality is in fact a vertically devised knowledge structure (Bernstein, 2000) that can be considered a predictive form in that it is based on certain fundamental theoretical principles of dissonance and resolution. Its elements are realised through a sonic journey away from and returning to a home key. The potentialities of this system become organised through the generative mechanisms of technology (instruments) and through the utilisation of transitive knowledge built up over time which sees this musical realisation take a multitude of creative forms. In artistic or aesthetic terms what we collectively call great music in some way epitomises, extends, transcends, or even contravenes the conventions of its time (Rosen, 2012). In this way the dialectic between form and content is played out. Some commentators see this interplay as

symbolic of the human condition itself and as communicating meaning about the social world beyond music's specific materiality.

More specifically Weber (1958b) finds in music Western culture's quest for rationalisation, for example, the development of tuning temperaments that act with 'reason' on 'irrational' acoustic 'truths' (the intervallic discrepancy known as a diesis) to create a tuning system that is useable within a cultural aesthetic. This for Weber is an example of the essential tension between reason and irrationality, science and nature, theory and practice, expression and structure. This takes us to questions concerning the limits of the Western tonal system itself, to the atonal developments of the twentieth century, and to the question of comparison with cultures other than that of the West – questions well beyond the scope of this chapter. The significant point here is that Weber provides a clear account of the way in which music can be a form of explanation and generalisation about aspects of the world and representative of the general process of Western rationalisation. The musical artistic process involves a dialectic relationship between the apparent limits or boundaries of form (rationality) and its creative realisation. This is music's potential to point beyond the limits of its materiality (Rosen, 2012; Johnson, 2002).

While semantic understanding is foundational in developing critical understanding, there remain some aspects of music's *qualia* that are particularly difficult to define in semantic terms (Finberg, 2006). Johnson (2002) suggests that 'music invites us to participate in a special kind of thinking that brings together the emotional and the intellectual in a uniquely intense and sophisticated manner' (p. 60). Nevertheless developing knowledge about how music works at a conceptual level provides an entry point for 'thinking in music'. These ways of thinking will vary according to the level of engagement as listener, player, improviser, musicologist, arranger, or composer. Educationalists have argued that such abilities are most likely to be developed where students have experience of playing and composing music, from learning to think within musical parameters rather than coming only into contact with knowledge *about* music (Elliott, 1995). But within education a balance needs to be found between understanding music as something experienced through the power of the senses and understanding how music itself 'works' via its sonic materiality.

A return to the cognitive

I have suggested that the affective dimensions of the experience of music are a fundamental part of its power in our culture but that education

must also provide the means for understanding this experience. This understanding may in turn facilitate feedback into the music itself be this through composing, arranging, or playing. The development of such knowledge provides students with an enhanced means to understand and utilise music in varied ways. It provides the potential to take concepts beyond the specific to generate new ideas both within and beyond musical contexts.

Regarding concepts as paramount to the work of education is central to Carl Bereiter's (2002) work. Using Popper's (1978) concept of 'three worlds' he argues that it is through concepts that education can provide a means to understand the world. Popper's three worlds comprise the physical, the psychological, and products of the human mind. The significant aspect of Popper's world 3 objects (the products of the human mind) is that through critical scrutiny in public arenas they gain a level of autonomy and objectivity. Bereiter suggests this is 'knowledge there for the taking, by anyone who has access to it and who can make something of it' (Bereiter, 2002, p. 61). This knowledge is also fallible but improvable and can engender a life of its own independent of its creators (p. 64). In other words, it exhibits a level of autonomy independent of the context of its creation. Moreover such conceptual knowledge 'can be found to have characteristics, virtues and faults, implications and applications, which their creators could not have foreseen' (p. 64).

Bereiter (2002) suggests that the justification for the place of the humanities within education is much the same as that for the sciences: 'they help in understanding the world – the world of human motives, actions and values' (p. 318). Moreover he suggests that in the humanities students require a much broader contact with the content of the discipline area. This can lead to the pedagogical dilemma of students needing to learn things before they may recognise their value with resultant motivational problems. Bereiter identifies the central pedagogical challenge also identified by social realists:

> How do we make contact between students' interests and the big ideas that form the intellectual life of a civilization? How do we teach things that lead somewhere? How do we ensure that the quest for understanding maintains a continually growing edge?
>
> (Bereiter, 2002, p. 339)

Arousing curiosity in students about the humanness of this knowledge – the stories or 'powerful narratives' (p. 319) that lie behind them – is likely to be a central 'way in'. In other words, narrative recontextualised

for pedagogic purposes may be a powerful pedagogic tool for teachers. This approach is applicable to some aspects of music's knowledge dimensions; however, it is likely that the music itself acts as a sufficient motivating force (a narrative in itself) along with the social affordances that music opens up for students. Bereiter's most interesting point however, that he attributes in part to Cassirer, is 'when we pursue critical inquiry in the humanities we reason from cases rather than from principles, and history and the arts are our main source of cases that go beyond the limits of our personal lives' (p. 321). Bereiter is only partly correct in relation to music. As argued above, there are vertical dimensions to some aspects of musical knowledge that may be exemplified by cases, but that are also underpinned by 'big principles'. Through an emphasis on the identification and development of concepts exemplified through cases students will be enabled to move beyond their experience and to understand, as Durkheim (1955/1983) suggests, that 'concepts themselves go even further beyond our personal experience; for they are formed by what a whole series of generations has experienced. What is superimposed on our individual experience, and "subsumes" it by means of concepts, is thus collective experience' (p. 104).

Reconsidering musical autonomy

The potential for music's inherent meanings to communicate across social, cultural, and political boundaries constitutes one of music's most powerful effects. Green (2005) argues 'for a partial but necessary reinstatement of the much-maligned notion of musical autonomy as a critical moment in any attempt to change things' (p. 78). She suggests that music's potential to create new meanings and enable social change comes in musical moments when inherent meanings contrast or contradict expected or traditional extra-musical delineations (such as social, gender, or economic social contexts surrounding music's production and reception) or vice versa. Such realisations or 'exposure' can lead, for example, to a shift in the notions of gender roles or in the cultural expectations in relation to a particular style of music. For example, Green's (2008) research found that under certain pedagogical conditions students altered their views of classical music, which had been largely unknown to them or for which they had negative delineations:

> When pupils' listening experiences are meaningfully connected to some amount of social action, which is both autonomous and

> co-operative, and when these experiences also involve the direct production of musical inter-sonic meanings in a way which can 'flow' and which can be playful, and when pupils are stimulated by whole pieces of 'real' music, then their musical awareness and response, or 'critical musicality', seem to open up.
>
> (Green, 2008, p. 180)

This is Bernstein's 'potential discursive gap', a moment of interruption (Moore, 2013). Bernstein (2000) argues that where meanings have an indirect relation to a specific material base a space opens up which can become 'a site for alternative possibilities' and 'the yet to be thought' (p. 30). There is the potential to challenge the social distribution of symbolic power and control: 'the outcome of framing in interaction has the potential for changing classification' (p. 125). This potential ultimately relies on the autonomy of conceptual thought although music's power may initially appear to be registered through the senses (Kivy, 1990). Green's (2008) pedagogical conditions involved holistic, student-driven social action and the opening up of potential learning spaces which can mark the beginning or the possible end for students' learning, depending on their interest in music as a hobby or as a more important undertaking. I suggest that the further step of conceptualisation is required for this experiential 'opening up' to become potentially more powerful and sustained. Knowledge must become context independent so it 'can provide a basis for generalisations and explanations that go beyond specific cases . . . it allows those who acquire it to develop the capacity to imagine alternatives' (Young, 2008a, p. 166). This is the beginning of 'elaboration' – education's purpose to provide access to 'extended realms of human knowledge and experience' (Moore, 2013, p. 84). Elaboration has a reflexive component as Bernstein indicates: 'Where codes are elaborated, the socialized has more access to the grounds of his own socialization, and so can enter into a reflexive relationship to the social order he has taken over' (1971, p. 176).

Engagement with music will initially be a sensory experience, a material experience where the epistemic object is known in a very basic but real way. The space between this contextualised encounter and its potentiality is filled by the epistemic dimensions of the object as they are elaborated through the pedagogical intent of the teacher who must know the most likely conceptual destinations for the learning (Muller, 2001). As delineations shift students may begin to think the previously unthinkable, and this new awareness becomes one of reflexivity. In this way music acts as a portal to the discursive gap. As Bernstein (1990)

suggests this space 'can become the site of alternative possibilities, for alternative realizations . . . ' (p. 182).

Conclusion – music beyond itself

Young and Muller (Chapter 3, this volume) have identified the potential power of subjects that can predict and explain aspects of the world. This chapter has attempted to show that music has these potentialities although the way in which prediction and explanation occur is at times quite different from the sciences. Nevertheless as Weber (1958b) has shown, and Rameau (1779) before him, the bulk of Western music derives from a rationalised and predictive system of knowledge, in Bernstein's terms a vertical discourse, specifically, the system of tonality in which relationships of intervals, scales, chords, keys, metre, and musical colour and texture form an interrelated theory of sound organisation (Weber, 1958b). These generative mechanisms provide a framework from which the imaginative pursuits of musicians challenge and transform the objects of the discipline over time. Beyond prediction and explanation music has the potential to engender forms of collective representation and engagement providing a means both to connect individuals to their society and 'to transcend the limits of individual experience' (Wheelahan, 2010, p. 19). Bernstein (2000) identifies the dislocation between inner and outer, the individual and society, as a doxic principle of Western thought and music can be a site of this dislocation. Moreover music and the arts attempt to resolve the dislocation through a celebration of 'our twofold nature, the tension of spirit and body that defines us' (Johnson, 2002, p. 113). This is the dialectic between the subjectivity of experience and the world of music's materiality (Edwards, 2014). We are aware of the way in which music can act on us apparently directly through the senses and through the body yet we can seek to understand and fashion its potential through conceptualisation. This is knowledge that is produced collectively 'through an immense cooperation that extends not only through space but through time' (Durkheim, quoted in Moore, 2013, p. 45). This is where the work of schools comes into play 'enabling pupils to acquire knowledge not available to them at home or in their everyday life' (Young, 2008b, p. 16).

Within the music education field the aesthetic and epistemic dimensions of music have lost status as a result of the influence of aesthetic relativism and the increasing reification of subjective experience over socially evolved epistemic knowledge (see, for example, Elliott, 1995; Philpott, 2010; Spruce with Matthews, 2012). There is a danger that

music's educative potential is reduced rather than enhanced. It is important to clarify that I am arguing for a realignment of the horizontal and vertical spaces of knowledge associated with music and its making, not a replacement of one by the other. Both are required for a full understanding of the 'inner and outer'. As Edwards (2014) suggests 'knowing – and, as such, the curriculum – always involves a transaction between a learner and the natural and social objects to be known' (p. 180). Moreover as Young (2010a) has noted in relation to Vygotsky's distinction between everyday and theoretical concepts 'the learner's everyday concepts are extended and transformed by pedagogy through engaging with the theoretical concepts of the curriculum. The process is then reversed; learners draw on their newly acquired theoretical concepts to re-engage with and transform their everyday concepts' (p. 16). In New Zealand there has been a swing towards localisation of curriculum realisation (McPhail, 2012a; Rata, 2012b; Ormond, Chapter 10, this volume) and many students do not come into contact with the knowledge that allows them to place their experiences within the larger systems of thought of the discipline (Wheelahan, 2010). Nevertheless many teachers seek to maintain a balance between social and epistemic dimensions (McPhail, 2012b; 2013a; 2013b). The practical challenge is how to achieve not only the balance teachers seek between students' rights of ownership over their efficacious experiences of music's affective power but also the right of access to knowledge fundamental to the conversations of the discipline (Wheelahan, 2010).

While music has significant potentialities in dimensions that I have broadly termed experiential (sensory and corporeal), aesthetic, and epistemic, it is the epistemic aspects that should underpin and give unity to musical experiences within the classroom. Music's potential as a powerful form of knowledge can be most fully realised in education through an understanding of its inherent generative concepts that underpin our experience of its aesthetic dimensions and the embodied craft of its production, otherwise its power remains restricted to the realm of subjective experience. Grounding music education with conceptual knowledge can answer Bowman's (2004) challenge to deconstruct the binaries of the formal and informal (classical and popular) to show 'the continuity and unity of all human musical endeavour' (p. 32). Ideally education will provide integrated experiences for students at different stages of the educative system – access to tuition in varied instruments and styles of music and then access to transitive knowledge built up over time that allows 'society to make, classify and systematize connections and inner relations between things, and to connect the past, present and

future by connecting the material and immaterial worlds' (Wheelahan, 2010, p. 19).

It has been my argument that we must create cognitive capital for students by engagement with conceptual knowledge to provide a critical approach for explaining and understanding music's sensory and aesthetic nature. There is a danger, pointed out some time ago by Adorno that music's status can be reduced to that of 'a commodity that subverts critical faculties and substitutes for knowledge a kind of compensatory affirmation' (DeNora, 2003, p. 17). There is a pessimism too in Bernstein's late writing in which he describes a growing dislocation between 'inner and outer' as a result of a market emphasis in the educational arena. Perhaps the 'attitude of caring and commitment' (Bowman, 2002, p. 75) and the development of the strong pedagogic identities that music and the arts seem to engender can provide some counter to this pessimism. The arts remain an arena where inner commitments to knowledge can be predominant in the regulative discourse of education. Music's essence and value lie in the dialectic of immediacy and potentiality; music can be a space of tension between the material and immaterial, the inner and outer, the cognitive and affective, the sacred and the profane. In this way it acts as a symbol of human boundaries, limits, and potentialities. In relation to curriculum it is important for educators to differentiate the necessary from the arbitrary as Roy Nash (2010) has noted: 'if realism is right then some knowledge, at least, is not arbitrary but necessary . . . we should seek to reconcile the arbitrary with the necessary, or at least seek to distinguish the one from the other, and so attempt to place the school curriculum on realist foundations' (p. 152).

9

‘Neither Existence Nor Future’: The Social Realist Challenge to School Geography

John Morgan

Introduction

Since the late 1990s, writers associated with what has come to be termed ‘social realism’ have challenged the idea, which has become influential in many educational systems, that knowledge should be seen as a ‘process’ rather than as an ‘object’ and that is it co-constructed in the interactions between teacher and students. At the risk of oversimplifying, social realism sets out to challenge the claim that ‘transmission’ – characterising any educational incident that has the learning of knowledge previously planned or defined by the teacher as the basic objective – is a questionable aim for teaching. The idea that knowledge is socially constructed, and therefore malleable and ‘arbitrary’, has profound implications for ‘curriculum’ – that body of knowledge which is to be taught in schools. Taken to the limit, the conceptualisation of knowledge as a social construction can lead to the adoption of a ‘ludic-rous’ curriculum, where knowledge is seen as playful and where the suggestion that there exists (or should exist) a common curriculum is, quite literally, viewed as ludicrous. The challenge that social realism poses for educators is to take knowledge seriously and to assert that knowledge has an existence independent of those who created it. Knowledge is a social product, of course, but cannot be reduced to the standpoint of those who created it.

Social realism represents a challenge to the social constructionism that has dominated educational thinking in the past three decades, which tends to accept the argument that since we cannot describe and explain the world without language (which itself is a human construction), then our accounts of the world must be seen as mere representations. The fact

that we are 'only human' and our perspectives are limited by our social location and interests means that we should act as 'modest witnesses' and be suspicious of any claims to tell the 'truth'. Though this social constructionism is rife in educational discussions, it should be seen as part of the wider cultural and intellectual milieu in which there is suspicion about any claim to have access to truth. As Benson and Stangroom (2006) put it:

> Many books and articles have appeared, raising an eyebrow and smiling an incredulous smile at concepts such as rationality, well-conducted enquiry, evidence, inference, warrant, justification, the Enlightenment project, univeralism, science and truth. Suspicion of metanarratives, hostility to totalizing projects, condemnation of universalism as a tool of colonialism, identification of knowledge with power, distrust of binary oppositions, resistance to hegemonic discourses, decentring, problematization, interrogation of authority, hierarchies, logocentrism, phallogocentrism – are all part of the arsenal. (p. 18)

As I read Benson and Stangroom's 'list', I am reminded of how far this scepticism towards 'knowledge' has been part of the air that I have breathed working as a geography educator in the United Kingdom since 1988. As I seek to argue in this chapter, at both secondary (11–18) and in higher education geography has been strongly impacted by the 'postmodern turn'. The extent of the challenge that social realism faces in establishing a basis for curriculum in a subject such as school geography was brought home to me at an event organised by David Lambert and I (Lambert and Morgan, 2010), which sought to bring together university geographers, geography educators (in teacher education), and teachers to examine the 'common ground' between these different groups with an interest in school geography. At that event, Michael Young (2010d) gave a talk about powerful knowledge and about the need for a strong sense of the core concepts of the discipline. We broke into groups to discuss what these core concepts and ideas might be. As the discussion developed it became clear that for the academic human geographers in attendance, this was simply not a question that could be answered, or perhaps not even asked. The notion that there might be a single core to the discipline – that there is one 'geography' rather than multiple 'geographies' – seemed anathema to human geographers raised in a discipline that is self-consciously post-positivist and perhaps operating within a 'condition of postmodernism'.

Social realism and the school curriculum

Social realism has developed, I think, in two ways. The first tends towards philosophical ways of arguing and writing. It sets out social realists' position in relation to other philosophical and sociological approaches and ideas and in particular has clarified the ideas of important influences such as Durkheim and Bernstein. The second (and less developed) tends towards the question of the implications of social realist arguments for the school curriculum and speaks directly to an earlier tradition called 'new directions in the sociology of education' or sometimes the 'new sociology of education'. In this form, social realist writers assert the importance of school subjects as the best way to ensure curricular justice whereby all students have access to 'powerful knowledge'.

Social realists' statements about the curriculum are often seen to represent a regression to the 'bad old days' of elitist and 'irrelevant' school subjects. For instance, in the English context, attempts to argue for the maintenance of strong boundaries between school subjects and to define closely the content of those subjects inevitably lead to accusations of conservatism and harking back to an 'imagined past'. This reflects a well-worn division between 'tradition' – associated with collections of facts and canonical views of what should be taught – and 'progressivism' – which sees knowledge as socially constructed, 'arbitrary', and of more or less relevance. Social realist arguments about the curriculum attempt to offer a 'third way', one that is 'for knowledge' (Moore, 2000). Young and Muller (2010a) provide a useful heuristic with which to begin to make sense of debates about school knowledge. They discuss three possible 'Futures' for educational knowledge. Future 1 knowledge is often what gets labelled 'traditional' knowledge in that it suggests that there is a time-honoured collection of ideas, theories, 'Great Books', and facts that are of value in their own right. Such knowledge was historically associated with educational systems geared to transmitting elite cultural knowledge to the 'select few'. This facilitated the induction of select social groups into the 'dominant' knowledge traditions and this knowledge tended to be static and socially conservative. Young and Muller (2010a) suggest that Future 1 represents an 'under-socialised' view of knowledge in that it appears to transcend the social and historical conditions of its production. Over time, these conditions changed, and the claims of this form of knowledge have been eroded by a number of forces including the generalised demand for access to schooling (the expansion of education to wider social groups inevitably raised the

question of 'what types of knowledge'?); the explosion of knowledge (especially in science and technology) in the post-1945 period which called for a reformed or modernised curriculum (represented, for example, in curriculum projects of the 1960s and 1970s); and in the past three decades the claims of social movements such as feminism, environmentalism, and identity politics which have argued for the multiplicity of knowledges.

The outcome of these developments was the emergence of Future 2 knowledge which involved a steady weakening of boundaries, a de-differentiation of knowledge, and a greater emphasis on outcomes. In terms of the school curriculum this was reflected in the integration of school subjects, the increased trend towards stipulating curriculum content in terms of generic skills or outcomes, moves to favour formative over summative forms of assessment, and widespread acceptance of the value of facilitative (knowledge-building) forms of learning over directive (transmissive) teaching. Future 2 knowledge represents an 'over-socialised' view of knowledge. It suggests that the content of the curriculum and the types of teaching and learning arrangements used to support it are reflective of the social choices made by those who produce it and might just as easily be produced in other ways.

Young and Muller (2010a) envisage (and advocate) a Future 3-type knowledge based on an acceptance that knowledge is a social product, and that therefore is shaped by its historical location, but at the same time has a 'life of its own' because it is sanctioned by scholarly communities (with institutions, rules, conventions, and shared ideologies) which provide limits on what counts as knowledge. In such communities there are activities of boundary-maintenance (asking questions such as 'is this "geography" '?) and boundary-crossing (reflected in Kuhnian-type paradigm shifts). Knowledge has its own status, beyond those who produce it, and the question of worthwhile knowledge is shaped by disciplinary norms. To offer an example familiar to many geographers, consider Walter Christaller's influential work 'Settlement Patterns in Southern Germany' which was published in 1933 and which was adopted by geographers in the 1960s to be seen as one of the founding texts of a theoretical (modern) human geography. Christaller's Central Place Theory found a place in school geography curricula in the 1970s and 1980s. What is less known about Christaller's work was that he developed his ideas while working for the Nazi state in the 1930s and 1940s with the aim of providing a plan for the rational settlement of land (such as Northern Poland) to be annexed and 'cleansed' by invasion. Christaller himself joined the Nazi Party in 1940 and the

Communist Party in 1945! The personal and social circumstances of the knowledge produced by Christaller, while interesting, do not determine the status of his contribution. His Central Place Theory is taught less often now because the questions that he posed are no longer seen as central to the disciplinary concerns of rural geographers or those who study settlements.

Young and Muller's (2010a) paper provides a useful heuristic for thinking about the development of the school curriculum and, importantly, provides a broad historical account of knowledge and the curriculum. It is important to see these approaches to knowledge as processes rather than part of a continual timeline of linear development. At any one time, particular school subjects in particular jurisdictions will be a complex mix of a number of forces. This suggests that there is an important need for case studies or examples of how these processes shape educational discussions and developments. Although the focus in this chapter is on one particular and local example – school geography in England since the Second World War – I hope the chapter will speak to wider concerns and encourage discussion and study of how these ideas relate to other school subjects and contexts.

Curriculum accords and school geography

To reiterate: the school curriculum is a social product. This means we should reject any claim that the organisation and contents of the curriculum transcend existence, society, and time and require that we view these as the complex construction of a number of real, historical factors. Although this seems to suggest that the school curriculum is a 'battleground', constantly being fought over and contested, it might be better to assume that, for relatively long stretches of time, there may be broad agreement as to the aims, purposes, organisation, and contents of the curriculum. Michael Apple (2005) calls such periods of agreement 'curriculum accords' in which there is general agreement about which versions of knowledge as subject matter are selected, classified, framed, and ultimately realised in school classrooms. In view of the 'radical' nature of his work, Apple, of course, suggested that these curriculum accords were always the outcome of struggles to define social reality, and therefore reflected the 'selective tradition' or 'official knowledge' favoured by the most powerful and influential interests in society. What this suggests is that the state of individual school subjects – in this case geography – at any one time represents a dynamic settlement between different interests, and it is their power and actions which determine

the nature of curriculum change (Huckle, 1985). Curriculum accords do not last forever, and are prone to change, influenced in complex ways by economic, social, and cultural change.

In the post-war period in Britain, education was perceived to be central to national regeneration. An educational settlement emerged that saw schools as having the capacity to strengthen democracy through the formation of citizens, reduce class divisions and promote social harmony through equality of opportunity, and promote economic growth through the more efficient cultivation of the reserves of talent in the nation. In curriculum terms, the challenge was to ensure that the educational offer that had hitherto been available to the upper and middle classes was made available to all children. Invariably the widening of access (as it was termed) raised important questions about the nature of these curriculum subjects.

The early development of geography as an academic discipline appears to conform to the description of Future 1 knowledge described by Young and Muller (2010a). By 1850 there were established the clear beginnings of geography in universities. The Royal Geographical Society was established in 1830. Geography professors were appointed at University College London (1833), Oxford (1887), and Cambridge (1893). The discipline was influenced by a variety of external influences that characterised scientific thinking. The first was the principle of uniformitarianism which held that the key to understanding past processes was the study of present-day processes. The second was evolutionary thinking, and the third was exploration. These provided the basis for the development of the discipline. An important feature was the dominance of the concept of environmental determinism which held that variations in human existence could be explained in terms of the characteristic of physical environments. Geography was seen as a bridge between the natural and human sciences. The key conceptual development within the subject was that of the 'region', which allowed the earth's surface to be divided according to particular criteria and then the various components or contents of that region could be described and accounted for.

There was an important link between the subject as taught and studied at universities and that studied at schools. Indeed the universities provided a readymade supply of geography masters to teach in the public school system. The school subject provided a broad coverage of human existence in different regions of the world. There were important debates about how this content should be taught, and a focus on content did not preclude the teaching of concepts which allowed

for the interpretation of regions. The dominant approach was to start with an account of the physical characteristics of a region, followed by accounts of the human organisation of population and economic activity. Geography was realist in its approach. It sought to provide accurate descriptions and accounts of the earth's areal differentiation. As I will argue in what follows, much of the period since the Second World War has been characterised by a reaction against this form of geographical knowledge (which again is in line with the account of Future 2 knowledge discussed by Young and Muller (2010a)).

The aftermath of the Second World War in advanced Western economies was characterised by a period of economic expansion, facilitated by the boosting of demand through government spending. The state – both nationally and locally – sought to plan economies, oversee the growth and development of cities, and develop efficient transportation networks to promote economic growth. This work was aided by the expertise of graduates in universities. However, geographers, with their commitment to regional description, risked losing out in this process, and as result, the 1950s saw a major change in the nature of geographical study, marked by a debate between those geographers who were committed to the idea of geography as an ideographic, descriptive study of areal differentiation and those who sought to elevate geography to the status of a spatial science, using mathematical modelling and statistical analysis to derive generalisable spatial laws. At stake here was nothing less than the establishment of a new – scientific – language for the discipline. Many of these developments came from geographers working in the United States, but found their way to Britain through the activities of geographers such as Richard Chorley (London) and Peter Haggett (Bristol). At a series of meetings and conferences, Chorley and Haggett introduced the principles of the 'new geography' to a 'New Model Army' of geography teachers based largely in public schools. 'The new geography' (sometimes called 'quantitative geography' because of its penchant for using numerical data and employing statistical analysis) proved to be popular among younger teachers, not least because it appeared to raise the status of the subject to that of a science, which allowed heads of departments in schools to argue for greater time and resources in the curriculum.

The new geography played an important role in the modernisation of the school geography curriculum. One of the 'founding fathers' of modern geography education, Norman Graves, reflected in 1996 that, when he started teaching in the 1950s, the curriculum problem was never discussed: it was taken for granted that the subject would be a

rational selection of materials taught in universities, mediated through university-controlled examinations boards. The expansion of education in the 1950s and 1960s led to important changes in school geography, and school geography experienced what has been characterised as a 'golden age of curriculum development' in the form of no less than three schools council-sponsored curriculum projects. The timing of these projects coincided with the expansion of teacher numbers and the location of teacher training in university departments of education, where a focus on 'rational curriculum planning' led to a concern to 'modernise' the school subject with doses of the new geography. This modernisation also entailed a shift in the social relations of the geography classroom from what Parsons (1987) called the 'traditional' to 'reformist' school geography (clearly in line with the development of Future 2-type knowledge), including developments such as (1) a change in focus from teaching factual knowledge to teaching key geographical concepts and generalisations; (2) a focus on rational curriculum planning; (3) the shift from expository to discovery learning based on geographical inquiry and group work; (4) an explicit attempt to ensure that the geography curriculum was relevant to the needs of diverse students; (5) changes in assessment practices away from recall and reproduction to authentic problem-solving and the application of knowledge and; (6) a concern with an inclusive view of geographical knowledge which stressed subject integration and made links to political and social issues.

So far, I have discussed some of the forces that led to the 'modernisation' of school geography in the post-war period. These were a mix of 'internal' changes in the nature of the academic discipline (for example, the shift from a descriptive to an analytical mode or the change from the study of regions to the study of themes) which were selectively incorporated into school versions of the subject and 'external' changes linked to educational practices (such as the expansion of provision to more students or changes in teacher education). In both cases the general direction was a move from Future 1- to Future 2-type knowledge (Young and Muller, 2010a), and in the next section, I will suggest that this move was accelerated as the 'curriculum accord' broke down.

The end of consensus

From the late 1960s, the educational settlement that had characterised the post-war period began to break down in the face of slower rates of economic growth, political disagreement, and cultural fragmentation.

Existing educational models were criticised from a variety of perspectives: from industrialists concerned about the anti-industry bias of schools; from liberals concerned that the equality of opportunity promised by mass education had failed to materialise; from radicals concerned with the authoritarian aspects of schooling; and from conservatives concerned that schools promoted 'counter-cultural' values. In this context, the 'curriculum accord' of the 1950s and 1960s began to break down, leading eventually to a new one in which it was widely accepted that the school curriculum should primarily be geared towards preparing students for life in the 'global knowledge economy'. As I argue in this section, these developments had important effects on geography as a discipline and in schools.

The 'modern' school geography that had developed in the 1970s based on the 'new' geography, the schools council projects and renewed models of teacher professionalism, was challenged in the 1980s from a variety of sources. First, school geography was criticised as conservative and backward-looking by teachers influenced by the 'adjectival studies' associated with the new social education (Dufour, 1990). The 'new social movements' spawned a diverse set of subjects such as world studies, global education, peace education, and environmental education which competed for space in the school curriculum. These 'subjects' shared an analysis of the 'traditional' curriculum which critiqued their inherent imperialism, racism, and sexism and challenged the fragmented view of the world that resulted from their perspectives. Geography, from this perspective, was part of the problem. These 'ideology critiques' prompted reviews and revisions of curriculum materials and led to more 'radical' critiques of school geography by a minority of geography educators and teachers who questioned the relevance for students of much of what was taught in schools and sought to incorporate developments within the wider discipline which drew upon humanistic and structuralistic philosophies. Third, school geography was influenced by arguments about the importance of vocationalism and work-related experience. Finally, and largely in response to these developments, there emerged a conservative critique of school geography which culminated in the 1990 National Curriculum for Geography which was viewed by many commentators as a return to the geography of the past and which sought to return Britain to her former glory as an imperial power.

It is possible to view these developments using Young and Muller's (2010a) categories of Future 1- and Future 2-type knowledge. The contests of the 1980s in school geography were concerned with attempts to weaken the boundaries of the subject as taught in schools. This

is especially true of the so-called 'adjectival studies' which explicitly criticised the mechanistic worldview encouraged by the subject-based curriculum. Radical geographers too sought to dissolve the boundaries between a school geography dominated by the models and consensual perspectives of the past and the lives of students growing up in a multicultural and conflict-riven post-industrial Britain. On the whole, geography teachers by the 1980s had developed pedagogical approaches that incorporated aspects of enquiry and classroom talk, and it was this 'progressive' view of school geography that seemed to be challenged by the 'back to the future' version of school geography proposed in the National Curriculum. Looking back at the 1980s, it is striking how little influence Future 1-type knowledge has had on the development of school geography. Although there are the periodic 'scares' about children's lack of basic geographical knowledge, or the fact that geography lessons seem to offer moral lessons on what and how to consume, these have little impact on a school geography that is largely shaped by Future 2-type knowledge. Indeed, as I will argue in the final section of this chapter, there is a sense in which school geography is increasingly 'empty' of geographical knowledge.

The postmodern turn in geography and education

To claim that school geography is increasingly empty of geographical knowledge sounds preposterous, and I should make it clear that I am not claiming that nothing is taught in geography classrooms. Instead, I want to argue that, compared to the 'modern' school geography of the 1970s and 1980s, 'postmodern' school geography is not primarily concerned to ensure that students are provided with a principled and rigorous selection of geographical content and concepts. In writing that sentence, I am conscious that, since around 1997, no self-aware human geographer would use the term 'postmodern' unguardedly. However, I think the term usefully serves to mark the break between a modern geography that held on to the hope that geographical knowledge could approximate realistic accounts of the world and a postmodern geography where the grand aspirations of the subject have largely been abandoned. By the early 1990s, the geographical literature was awash with debates about 'postmodernism', and human geographers took it very seriously indeed. According to Dear, whose 1988 paper 'The Challenge of Postmodernism' represents a seminal statement, postmodernism constituted 'the most profound challenge to three hundred years of post-Enlightenment thinking' (Dear, 1994, p. 2). Dear

speculated that geographers were attracted to postmodernism because of the spatial metaphors found in Jameson's (1984) groundbreaking essay, which used the terms 'hyperspace' and 'cognitive mapping'. The year 1989 saw the publication of Ed Soja's *Postmodern Geographies,* David Harvey's *The Condition of Postmodernity*, and Peter Jackson's *Maps of Meanings*, all of which explored the relationship between 'society and space'. In different ways, they set the terms of the debate in human geography for the next decade or so. Soja's book was subtitled 'the reassertion of space in social theory' and argued that economic and cultural changes since the 1960s had exposed the limits of social theories grounded in historical thinking. Drawing upon an (apparently throwaway) remark by Foucault in a late interview, Soja argues that space is central to understanding the postmodern geographies of late capitalism. Harvey's book examined the glossy and surficial cultural worlds of post-Fordist capitalism, where all that is solid seems to melt into air, and attempts to explain these changes as the outcome of deep-seated changes in political economy. Covering much of the same terrain, Jackson's book called for geographers to take seriously the 'lived cultures' that thrived in the spaces created by capital. The themes raised by these texts – 'space', the relationship between society and space, and the cultural aspects of economic change – have continued to dominate geographical research and study. By 1991, an introductory text for undergraduate geography students had appeared which argued that the 'postmodern sensibility' for difference and fragmentation was in line with geographers' fascination for places and environments (Cloke et al., 1991).

It is important to understand postmodernism and postmodern geography as a response to perceived or actual changes in the nature of global capitalism. As Shurmer-Smith (2003) notes:

> It was in this climate of general consciousness of the problem of finding meaning and value that the so-called 'cultural turn' occurred amongst intellectuals in all of the social sciences, and not only in the West. Indeed, there came to be some unease about the use of the term 'science' when studying society. By the cultural turn it was implied that the accumulation of ways of seeing, means of communicating, construction of values, sense of identity should be taken as important in their own right, rather than just a by-product of economic formations. Suddenly, 'culture' became intellectually fashionable as a starting point for interpretation, whereas it had hitherto been seen as lacking in rigour. (p. 1)

In this statement we can identify a number of features characteristic of geography in its 'postmodern' phase: the 'loss of meaning', scepticism about 'science' as a means to accessing truth, the privileging of meaning and identity, the rejection of economistic explanations of the world, the idea that interpretation is the best that geographers can hope to offer, and the chasing of intellectual 'fashions' as the latest writers are adopted and quickly discarded. These developments in geography were driven by the subject's close alignments with social science. Postmodernism challenged the modernist assumptions that had characterised geography for much of the post-war period. As Johnston (1979) argued in his panoramic survey *Geography and Geographers: Anglo-American Human Geography since the Second World War* (published first in 1979 and currently in its sixth edition), until 1990 geographers had worked within three distinctive 'paradigms' – positivism, humanism, and structuralism. Despite having very different epistemological and ontological assumptions, they had in common a search for truth, based in the belief that 'better' knowledge of the world could be achieved.

Postmodern geography, with its 'incredulity towards metanarratives', challenged this, and although geographers quickly gave up on using the term 'postmodern', the ways of thinking and attitudes it inaugurated continue to influence geography as taught and studied within universities. There are a number of elements to this. First, in the light of the 'crisis of representation' associated with postmodernism, geographers are sensitive to the idea that language does not adequately represent the 'real' world. The idea of mimesis – that geographical language can provide a clear account of the world – has been replaced by the notion that landscapes themselves are 'texts' that can be interpreted. This has led to new modes of inquiry and experimentation with geographical writing. Second, the idea that there is a single 'Geography' has been replaced with the acceptance that there are multiple 'geographies'. This 'lowering of the capitals' has resulted in a proliferation of 'other' or 'dissident' geographies, which assume that, as a discipline, geography was constructed on a series of exclusions. Thus there are geographies of sex and sexuality, queer geographies, geographies of postcolonialism, children's geographies, animal geographies, geographies of disability, and so on. This is a reflection of wider intellectual concerns with difference and identity. Third, and linked to these developments, is a heightened interest in embodiment and performance. Drawing upon sociological work which argued that social science had been built upon a binary distinction between the mind and the body, geographers have suggested that the making of places and spaces is

achieved as much through enactment and performance as through language. There is thus a growing interest in 'Non-Representational Theory', which itself draws upon post-structuralist ideas of becoming and flow.

Effectively, contemporary human geography exists in the 'post'. Though the strands of the discipline have become more tangled, Curry's summary of the subject's 'new commonsense', written in 1996 at the highpoint of postmodernism, still resonates:

> There are three moments to this new common sense. First, language is rethought. The traditional notion that some language is 'literal' and some figural, or figurative, is discarded; all is now seen as figural. The image of the text as a neutral and transparent representation of the world is abandoned; the written word is now seen as inevitably partial, obscuring just as it represents. Second, knowledge is now taken as fundamentally to derive from a particular point of view, and the products of knowledge are thereby taken to be relative to that point of view. And third, the world is now seen as resistant to a single set of constituents. Rather, it is fundamentally messy; it consists of all manner of objects, events, and processes.
>
> (Curry, 1996, p. 5)

The extent to which this 'new common sense' still exists can be glimpsed in a recent introduction to geographic thought written by the British geographer Tim Cresswell (2012). The book is intended to introduce readers to the history of geographic thought, and it is telling that over half the book is devoted to approaches that follow the postmodern turn, with chapters on post-structuralist, relational, and more-than-human geographies. Thus, the overall impression is of a discipline dominated by approaches that seek to downplay meta-narratives, foreground the partial nature of knowledge, and highlight provisionality and social construction. The overall message is that there is no 'Geography', only multiple 'geographies'. The boundaries between geography and other fields are porous and flexible. Geographers, Cresswell argues, can at best produce 'meso-theory' – mid-level accounts of some aspect of the world (place, space, race, culture, etc.). In his concluding chapter, Cresswell provides an account of his own intellectual training in geography and feels bound to apologise for the 'exclusions' of his text, which, he notes, contains little reference to 'geographies of post-colonialism' and 'Black geographies'. That he feels this is required is perhaps explained by his report that when he is invited to speak about his own research (on place

and mobility) he is asked to name a body of theory which he identifies with ('they want me to say that I am a Marxist, or a poststructuralist – a follower of Foucault perhaps').

These academic developments are, inevitably, far removed from the concerns of geography teachers in schools. However, it is perhaps unsurprising that geography graduates who set out to train as geography teachers find it difficult to articulate a clear sense of geography's core contribution to knowledge and increasingly identify themselves as 'cultural geographers', 'urban geographers', 'geomorphologists', and so on. The effect of this lack (for many) of a central understanding of the core of the subject is compounded as teachers learn to inhabit schools and classrooms which are shaped by aspects of 'postmodern' culture characterised by a focus on individualism, the notion of a 'flexible' self whose identity is constructed through the consumption of popular cultural goods and media, and where the proliferation of sources of knowledge has loosened the bonds of tradition and authority. In these conditions the nature and purposes of education and schooling are changed (see Usher and Edwards, 1994; Hartley, 1998). On the one hand, schools and teachers work under strong pressures towards accountability, measurement, and performativity. The trend is towards closely managed educational systems working to highly specified targets. Teachers' work is closely managed and what it means to be a 'good' teacher has been redefined. On the other hand, schools are imagined as central institutions of 'cool capitalism' marked by creativity, innovation, play, and informality, and teachers are invited to display a 'passion' for their work. As such, educational discussion and debate increasingly display many of the features identified by Usher and Edwards (1994) in *Postmodernism and Education*. For instance, education is more diverse in terms of its goals and processes as schools become a vehicle for the celebration of diversity and provide a space for different 'voices' against the singular authoritative voice of modernity. Thus intelligence, rather than being seen as based on narrow forms of cognition and largely 'fixed', is viewed as multiple and capable of change ('learnable intelligence'), the social and emotional aspects of life are seen as being as important as 'making the grade'. The school curriculum, based upon the types of 'foundational' knowledge found in school subjects based on disciplines, is seen to contradict the tenets of 'experiential' and 'personalised' learning. In a cultural context where a wide range of 'knowledges' are widely (if not freely) available, the role of the school as a source of authority is eroded (the question, 'why do I need a teacher when I've got Google?' appears as legitimate).

These developments have come to shape the ways in which geography teachers in schools understand and practice their work. While few geography teachers would call themselves 'postmodern geography teachers', many adopt ideas and approaches that may be termed 'postmodern'. These include the assumption that there is no single 'Geography' (with a capital G) but many 'geographies' and the idea that there is nothing particularly special about geographical knowledge, since it is all around us, in newspapers, on signposts, as graffiti on walls, in supermarkets, and on holiday. These 'quotidian' or 'everyday geographies' are the starting point for a personalised and 'relevant' geographical education; with the acknowledgement of multiple and everyday geographies, the notion of geography as an authoritative source of ideas about the world is effectively challenged. This means that any sense of a 'canon' of geographical texts and theories is increasingly rejected. In this context, geography becomes the subject of 'border crossing' par excellence, borrowing freely and creatively from other subjects and reluctant to separate geographical 'fact' from 'values'. If geographical knowledge is partial (in both senses of that word), then it follows that knowledge reflects the situated position and values of its producers. The 'moral' aspects of geographical study are encouraged as schooling is rendered a 'therapeutic' exercise, geared towards social goals such as charity, environmentalism, and citizenship; there is a growing sense that geographical knowledge is always under construction and that places, spaces, and environments are made and remade through the myriad actions of individuals and communities. This idea, which has a long lineage, has gained growing acceptance in the light of technological developments and online communities.

Social realist prospects for school geography

This chapter has described the processes that have led to the 'de-traditionalisation' of school geography. 'Internal' changes in the nature of geography as a discipline, the expansion of geography for all students in schools, moves to 'modernise' the school curriculum, and a set of cultural shifts that mean that formal 'disciplinary' knowledge is seen as simply one form of knowledge have all meant that school geography has adopted what Young and Muller (2010a) term 'Future 2'-type knowledge. This means that within school geography there is an 'over-socialised' view of knowledge.

It is this 'over-socialised' view of knowledge that social realism contests. It entails an acceptance that geographical knowledge is a social production, but insists that that this knowledge has an existence beyond

the context of its production. There are 'better' forms of geographical knowledge, and these should form the basis of a common curriculum for all students.

What then are the prospects for such a curriculum? It is important to acknowledge that the processes that lead to the acceptance of 'relativism' are firmly entrenched. Consider the following statement taken from an introductory textbook for geography undergraduates:

> As social scientists, few human geographers now actually believe that there is a straightforward objective reality around us that we are all seeking to describe and explain. For example, the fact that this book has been written by a group of white, predominantly male, geographers whose lives and careers have largely been spent in the United Kingdom, and mostly outside London, has influenced the way it has been written.
>
> (Daniels et al., 2003)

This is an extraordinary statement that reflects the current limited ambition of a subject that has traditionally aimed to provide students with an enlightened and potentially transformative understanding of the world. Students reading this (some of whom will go on to teach geography in schools) will likely infer that they are being introduced to a subject in which gaining access to truth is not possible, that knowledge is linked to one's personal 'location', and that all geographical writing is inherently untrustworthy.

It might be hoped that these limited ambitions might be challenged in teacher education courses. However, such courses are intense and tend to favour a practical approach. Typically, beginning teachers get very little guidance on the nature of geography as a discipline. Courses are geared to performance and practical guidance on how to teach. Curriculum theory and design are marginal elements and even where a theory of teacher development as tacit embodied learning is not explicit in the programme, the learning of what constitutes a curriculum is left to the relationship with teacher mentors in schools, many of whom now work with a practical ethic of what works and favour learning over teaching.

In the light of these developments, it is tempting to concur with Michael Eliot-Hurst's (1985) assessment, made in his provocatively titled essay, that 'geography has neither existence nor future'. Eliot-Hurst argued that geography was irrelevant to developing an understanding of contemporary society for two reasons. First, the knowledge produced by geographers was tainted by the discipline's origins in

nineteenth-century projects of imperialism and empire, and second, in its modern form was committed to concepts such as 'space', 'place', and 'region' which have no firm epistemological basis. These attempts to demarcate the proper concerns of geography meant that the subject could only investigate a certain limited domain of social reality and was unable to produce knowledge of anything outside this domain. Eliot-Hurst challenged geographers to abandon their discipline, 'commit academic suicide', and partake in a grander intellectual project rooted in historical materialism (based on concepts that do offer a basis for understanding and explaining the world). His essay was written in 1985, and clearly geographers did not choose such a path. However, if the arguments I have made in this chapter about the status of geographical knowledge have any validity, the potential for school geography to provide students with 'powerful knowledge' is presently limited. The social realist challenge for geography is both timely and urgent.

10

Powerful Knowledge in History: Disciplinary Strength or Weakened Episteme?

Barbara Ormond

Introduction

History is an academic subject rich in powerful knowledge. It is a specialised discipline which practises robust self-critique and contributes to universal understandings. Nevertheless, when the discipline is reframed for teaching school students, there are pitfalls and obstacles which can affect the ability of the discipline to maintain its epistemic status. This chapter examines the characteristics of strong disciplinary knowledge and illustrates how that knowledge may be weakened in school settings. Assessment and pedagogical practices can manipulate history's knowledge structure and dislodge its disciplinary coherence. Perspectivism and relativism may influence knowledge selection to impact upon the potential of the subject to deliver critical universal knowledge. Teachers play a crucial role in reshaping the discipline for teaching at school. What happens when, as in New Zealand, history teachers have complete authority to determine the knowledge they teach? Such autonomy places knowledge in a fragile position. There is the potential to deliver powerful knowledge but also the possibility of weakening the subject's episteme.

The place of knowledge in The New Zealand Curriculum

Knowledge occupies an uncertain place in The New Zealand Curriculum (Ministry of Education, 2007). The broadly framed curriculum mirrors global trends in its emptying of content and its ambiguity over the question of knowledge. Bronwyn Wood and Mark Sheehan

(Wood and Sheehan, 2012) argue that 'in a curriculum that is designed to contribute to building a "knowledge economy", neither the place of knowledge in The New Zealand Curriculum is clearly defined nor is the question of "What is knowledge?" in the context of the curriculum addressed' (p. 17). Michael Young (2013) claims that there is 'increasingly widespread acceptance among educational researchers of the idea that knowledge itself has no intrinsic significance or validity' (p. 106). 'The retreat from knowledge in curriculum', Leesa Wheelahan (2010) explains, is often justified by arguing that 'the knowledge society has transformed the nature of knowledge so the tacit, contextual and immediately applicable is more productive than the disciplinary and codified' (p. 3).

For history, the Achievement Objectives, which are the vehicle for conveying knowledge requirements in the curriculum, are succinct (see Table 10.1). They do not prescribe content or context. Instead they present a way of dealing with the discipline of history by looking at the causes and consequences of historical events and the perspectives of the people involved. While these elements are viewed as critical 'concepts' for history, when delivered in school settings, they more strongly represent a methodological approach to the discipline. It is debatable, whether this broad focus on causality, consequences, and historical significance can, of itself, assure delivery of valuable historical knowledge.

Table 10.1 History achievement objectives, levels 6–8, The New Zealand Curriculum (Ministry of Education, 2007)

Level 6 (for Year 11 students aged 15–16 years)	**Level 7 (for Year 12 students aged 16–17 years)**	**Level 8 (for Year 13 students aged 17–18 years)**
Understand how the *causes and consequences* of past events that are of significance to New Zealanders shape the lives of people and society.	Understand how historical forces and movements have influenced the *causes and consequences* of events of significance to New Zealanders.	Understand that the *causes, consequences*, and explanations of historical events that are of significance to New Zealanders are complex and how and why they are contested.
Understand how people's *perspectives* on past events that are of significance to New Zealanders differ.	Understand how people's *interpretations* of events that are of significance to New Zealanders differ.	Understand how *trends* over time reflect social, economic, and political forces.

The framing of 'knowledge' in The New Zealand Curriculum

Uncertainty about what constitutes knowledge and the role of knowledge in The New Zealand Curriculum is not confined to history. It is evident in the wide-ranging approaches taken to knowledge across different subjects. While some subjects have quite specific and detailed achievement objectives, others are so broadly stated that knowledge outcomes are precarious. Ambiguity over knowledge is compounded by the multiple ways in which the achievement objectives in the curriculum are described. They may be described variously in terms of knowledge, concepts, procedures, or skills outcomes. At Level 6 of the curriculum there are detailed requirements for knowledge in science where, for example, students distinguish between atoms, molecules, and ions. In contrast the achievement objectives for technology are framed as procedural knowledge. Students are required to analyse, undertake experimentation, evaluate an outcome, and so on (Table 10.2). While explanations for these differences may be attributed to the intrinsic features of particular subjects or to the way progression of learning is best organised, and explained in relation to Bernstein's (1999; 2000) structuring of intellectual fields, it is possible that such variance has implications for equity between subjects and equity between schools. The opportunities students may be given to engage with powerful knowledge may vary. Where a greater degree of specificity occurs in a national curriculum, the potential for teachers to consistently deliver powerful knowledge is enhanced.

History is now characterised by the considerable autonomy that teachers have to select the topics they teach. This is a recent development progressively introduced at senior secondary levels between 2011 and 2013. The commitment to teacher authority over topic selection emerged out of a Ministry of Education project which aligned The New Zealand Curriculum with the achievement standards for the National Certificate of Educational Achievement (NCEA) qualification. The Ministry of Education (2009) addressed the question of knowledge at the outset of the project when groups working on the alignment project were informed that the new curriculum was 'intended to be enabling so that standards should as far as possible be written in such a way as to provide schools and teachers the opportunity to select contexts which are best suited for the students'. At this point the certainty of prescribed topics such as the *Origins of World War Two* or *New Zealand in the Nineteenth Century* was abandoned leaving the interrelated conceptual and skill-based achievement objectives and achievement standards to govern

Table 10.2 Level 6 achievement objectives for science, technology, and history, The New Zealand Curriculum, 2007

Science	Technology	History
Investigate the interactions between the solar, lunar, and Earth cycles and the effect of these on Earth. Distinguish between atoms, molecules, and ions (includes covalent and ionic bonding). *(Two examples taken from the 23 Achievement Objectives at Level 6. Note: 16 of the Achievement Objectives define 'content' while the remaining objectives deal with the 'Nature of Science')*	Critically analyse their own and others' outcomes to inform the development of ideas for feasible outcomes. Undertake ongoing experimentation and functional modelling, taking account of stakeholder feedback and trialling in the physical and social environments. Use the information gained to select, justify, and develop a final outcome. Evaluate this outcome's fitness for purpose against the brief and justify the evaluation, using feedback from stakeholders. *(One example taken from the eight Achievement Objectives at Level 6)*	Understand how the causes and consequences of past events that are of significance to New Zealanders shape the lives of people and society. Understand how people's perspectives on past events that are of significance to New Zealanders differ. *(There are only two Achievement Objectives)*

the choices of teachers over content. While teacher autonomy over topic selection may offer opportunities to deliver powerful knowledge through programmes which are both significant and of immediate relevance to students, there are no guarantees. Notably too, it is an approach which contrasts strongly with the traditions associated with national education in New Zealand. These traditions valued equity which was to be delivered through specified knowledge made available to all students. This standardisation was supported by national assessment of the knowledge. The change to teacher selection means that there will be a high level of variability in selections between schools. At this early stage in this development, however, the implications of that variability for achieving good outcomes in knowledge of history, and for equity of access to valuable history learning, are unknown.

Powerful knowledge

The discussion of what historical knowledge teachers should select rests on the deeper question of what constitutes powerful knowledge. The New Zealand Curriculum's focus on the development of cognitive skills is certainly critical to education. However *it is through the integration of knowledge and skills, supported by appropriate pedagogies*, that knowledge can be learned. Young (2009) argues that 'access to knowledge . . . is central to the whole purpose of education' (p. 193). He comments upon the apparent 'divorce in much contemporary writing where thinking and learning are treated as if they were processes that can be conceptualised as educational goals independently of what the thinking and learning is about' (p. 202). Developing students' knowledge therefore lies at the core of schooling and access to powerful knowledge, or theoretical knowledge, is needed if they are 'to participate in society's debates and controversies' (Wheelahan, 2010, p. 1).

Michael Young, Johan Muller, Rob Moore, and others have discussed qualities or elements which contribute to recognising knowledge as 'powerful' in education. Moore (2007) talks of the 'voice of knowledge' and argues for knowledge that is 'critical' in being open to revision with an understanding of its fallibility, emergentist and not isolated within its circumstances of production, realist in its recognition of limitations of 'knowing', and materialist in understanding the 'intellectual fields' of its production (pp. 31–2). A 'working definition' given by Young (2010b) suggested that matters such as reliability, testability, contestability, and specialisation are features evident in powerful knowledge. These have been developed by Young and Muller and are discussed in Chapter 3 of this volume. In identifying the properties of specialised knowledge they note that it is systematically revisable, emergent, real, material, social, and meets criterion for 'bestness'. Compliance with these criteria is therefore a means to evaluate the potential of history as a discipline to be a conduit for powerful knowledge. Such an assessment is valuable. Through considering how historians practise their discipline and how teachers may translate such 'specialisation' for school delivery, greater understanding of the nature of powerful knowledge emerges.

Like all forms of specialised knowledge, history is differentiated from non-specialised cultural or social knowledge that we may encounter in everyday living. History is also specialised knowledge in meeting the 'materialist' criterion. The primary production site for developing disciplinary knowledge in history lies within the material culture of universities and through their academics, specialised knowledge is

transmitted, debated, and revised. While it may be argued that knowledge in the social sciences is too soft, too amorphous, too much derived from the perspective of the knower to be robust knowledge, most who practise the discipline of history would dispute this. They point to the strength of the 'internal rules' which govern historians' practices and their solidarity in adhering to well-recognised methodologies, which strongly positions the discipline to deliver specialised knowledge. Historians seek to reach conclusions about the past through following a rigorous process of historical investigation using appropriate and wide-ranging sources. For example, knowledge of history derived from oral accounts may contribute to specialised knowledge but historians have an understanding that such accounts are just a piece in the puzzle to explain the past. They view individual pieces of evidence, whether it is text, visual, or oral statements, with initial scepticism. Sarah Barber and Corinna Peniston-Bird (2009) comment that 'Historians often praise their own sense of scholarship'. They add that 'We like to think of ourselves as purveyors of a discipline which not only seeks after truth but also provides as much verification and corroboration of statements as possible' (p. 8). Therefore on the grounds that historians have substantially practised within an agreed methodology for critique that recognises fallibility but enables knowledge to be closer to objective than subjective, history produced by academics can be said to be reliable, powerful knowledge.

Basil Bernstein (1999) distinguishes between different types of disciplinary discourse and provides analysis of a discipline's relative strengths. Such theories provide a measure against which the discipline of history may be evaluated. As specialised knowledge, history constitutes a vertical discourse rather than the everyday knowledge of a horizontal discourse. Within vertical discourses Bernstein (1999) makes further distinctions in terms of a discipline's hierarchical or horizontal knowledge structure. While at times the history discipline integrates and subsumes previous knowledge typical of the hierarchical form, its structure could not normally be viewed as a 'hierarchical organisation' of knowledge or as 'systematically principled' (p. 161). History, therefore, appears to exhibit features which fall within the parameters of a horizontal knowledge structure and a vertical discourse. However, this position does not deprive it of its epistemic objectivity or lessen its power as a subject capable of delivering powerful knowledge.

Disciplinary fields also develop ways to distinguish the best knowledge when compared to other possible contenders. Such knowledge is also emergent, being as Young and Muller discuss in Chapter 3 the

'nearest we have to truth at any time'. This focus on provisional truth is significant because it clearly demarcates disciplinary knowledge from everyday or social knowledge. The latter may not be verified as accurate through other means but instead expresses the untested beliefs of individuals. While postmodernists argue that there is no truth or reality, only a myriad of interpretations and a multiplicity of perspectives, historians 'remain committed to a notion of truth in which some interpretation is more justifiable than others' (Barber and Peniston-Bird, 2009, p. 10). Accepting that the study of history will always involve many perspectives, in their discussion in this book Young and Muller concur that history can nevertheless 'be objective and therefore truthful' and also argue that just 'because the perspectives were plural [it] did not mean that the grammaticality . . . had to be weak'. This is a reference to Bernstein's (2000, pp. 163–6) theories on the relative, strong or weak, capacities of knowledge structures to generate 'empirical correlates' (Young and Muller, 2010b, p. 125). Stronger grammars are those exhibiting a capacity for meta-dialogue (Moore, 2013, p. 144). Through meta-dialogue, connections are plausibly made and competing explanations and change are accommodated to facilitate the development of new knowledge. Historians engage in a complex process of meta-dialogue and critique. They acknowledge and compare different historical accounts and subject their interpretations to scrutiny through peer review. Theories derived from this critical dialogue can then be explained using empirical evidence showing how a society of the past may have acted and responded. Strong grammars also lend themselves to cumulative knowledge-building. In contrast weaker grammars feature segmental knowledge acquisition and describe circumstances with a reduced capacity to propagate new knowledge (Young and Muller, 2010b, p. 125). Having a stronger grammar infers a more stable, consistent ability to validly explain the world, approach the 'truth', and advance knowledge.

The discipline has a strong focus upon historiography – on writing histories that are 'systematically revisable'. Historians recognise that the selection of evidence and writing of history are contestable and open to future reinterpretation. Historians, however, have confidence that their methodologies can bring sufficient objectivity to their conclusions. In Chapter 3 Young and Muller note that 'the human and social sciences are . . . more "contextual" than the natural sciences' and that this has the potential for them to be criticised or categorised as horizontal forms of knowledge. Undoubtedly historians clearly listen to the voice of society's knowers through documents and other sources written by peoples

of the past. Indeed everyday experiences of peoples of the past are a significant component in determining truths. However, the capacity of the discipline to weave a path through the multitude of voices that project from the past, along with the abstraction of ideas and weighing of significance of evidence, lifts history from its horizontal origins to its vertical position. In this sense it fulfils further criteria for specialised knowledge in being both 'emergent' and 'real'. These terms refer to the original historical contexts and social conditions as a production site for knowledge. From these conditions emerges powerful knowledge that is much more than the data and perspectives contained in the original collection of historical information and evidence. History is a discipline which has the potential to speak on conceptual matters. It takes events and people from the specificity of a period of time and place to a more universal or abstract sphere.

The fragility of knowledge – pitfalls and obstacles

Powerful knowledge, as established above, is specialised knowledge derived from rigorous and well-recognised methodologies. The question that follows is, can history's robustness as an academic discipline be realised in the school environment? In New Zealand, the question then becomes, can the robustness be realised when teachers, rather than national history prescriptions, determine the historical knowledge being taught? It is possible that the specialisation generated within the academic history community and understandings of disciplinary methodologies is transmitted directly to future history teachers during their study of history at university. Indeed, teachers of history in New Zealand schools are required to have university qualifications in their primary discipline. This experience in the discipline suggests that history teachers will maintain the epistemic quality of the subject once they begin teaching. With the autonomy that teachers now have to determine history topics, there is a higher possibility that the knowledge learned at university can be more directly brought into the classroom. In the past, prescribed topics for study in schools may not have matched those historical areas studied at university, so the knowledge itself may not have been utilised. This argument would support the shift to teacher selection of content.

However, the matter is considerably more complicated than linking teacher historical knowledge to topic selection. There is potential for derailment of the knowledge journey at various points. Disciplinary dislocation and the destruction of the internal logic of the subject of

history may occur when teachers recontextualise and mediate knowledge in response to the external imperatives of curriculum and assessment. The complete freedom to select historical topics is interrupted through requirements that students frame their responses in relation to causes, consequences, and perspectives. Through this, the discourses of historians are often radically reformed into somewhat artificial constructions. The desire to achieve high grades for their students may place pressure on teachers to be highly selective and focus upon a narrow or containable historical event which they then teach in terms of causes, consequences, or perspectives. This is in contrast to teaching the power of historical concepts and ideas which show connectivity between historical situations.

An example of imposing narrow limits on a topic is the selection of the Battle of Dien Bien Phu in 1954. In recent years in New Zealand this battle has sometimes been taught in isolation from the teaching of the Vietnam War and without reference to the significant period of US involvement a decade later. Selecting and isolating a single battle from its surrounding context of a wider war in this way has limited value. Knowledge is manipulated through framing these suitably selected 'knowledge bites' to relate precisely to what will be assessed. The potential for a piecemeal approach to knowledge demonstrated by this example was acknowledged in a review of the literature on standards-based assessment in New Zealand. Rawlins et al. (2005) noted that 'holistic knowledge and understanding gives way to knowledge that is more easily measured at the expense of critical, creative and integrated thinking' (p. 109). Students' experiences of history may be recontextualised so significantly that history's position as a discipline exhibiting 'strong grammars' is disturbed (Bernstein, 2000, pp. 163–6).

In this way, assessment operates as the driving force for teacher topic selection. The assessment requirements also have a tendency to limit the knowledge that students are required to learn each year. Compounding the aforementioned impact of history selected on narrow grounds is that students only need to demonstrate, for example, understanding of cause and consequence using one historical event in an entire year's course. The single examination question is also highly predictable from year to year because of the requirement that the question be written to fully align with the curriculum achievement objective and its related achievement standard (see Table 10.3). This enables students to pre-prepare their answers and teachers to teach a limited course, detailing the causes and consequences of a single event. It is feasible for students to use the same event for assessment of their understandings of 'perspectives', so a

Table 10.3 Illustration of the close alignment between The New Zealand Curriculum and the NCEA assessment (Ministry of Education, 2007; New Zealand Qualifications Authority, 2010; 2012; 2013)

Achievement Objective The New Zealand Curriculum 2007	**Achievement Standard 91005 NCEA Level 1**	**Examination Questions for Achievement Standard 91005 NCEA Level 1 2012 and 2013**
Understand how the causes and consequences of past events that are of significance to New Zealanders shape the lives of people and society.	Describe the causes and consequences of an historical event.	**2012 Examination** *Choose ONE historical event from any context you have studied this year, to write about.* Identify and describe the causes that led to your chosen historical event. What were the consequences of this event on people or groups in society? **2013 Examination** *Write an essay on ONE historical event you have studied this year, using the following question. Write your chosen historical event in the two spaces in the box below to complete your question.* Identify and describe the causes of _____. What were the most significant consequences of _____.

very limited knowledge can suffice for assessment purposes. Even when teachers encourage learning of much more extensive knowledge, students are astute and can limit their learning in the understanding that such an approach will be adequate to address the examinations.

If knowledge components are reduced significantly, it is difficult to develop the abstracted conceptual thinking that powerful knowledge

entails and that The New Zealand Curriculum claims to encourage. Narrowed or piecemeal selections of knowledge may limit students' ability to recognise and understand recurring themes, ideas, actions, and consequences in history. It may also limit the capacity of students to move beyond ideas they have formally been taught into the arena of what Bernstein (2000) referred to as the 'unthinkable' or 'yet to be thought' (p. 30). This means that, in deciding what constitutes powerful knowledge, the quantity of knowledge, and the complex interplay of breadth and depth need to be accounted for.

Bernstein's (1999) structuring of intellectual fields also suggests what conditions are required for progression in knowledge in social sciences. There is the possibility that historical knowledge will be weakened if attention is not given to the interrelationships between bodies of knowledge taught in successive years. There is a need to build upon conceptual understandings and produce programmes which logically build knowledge of time and place. In New Zealand, this matter is again left to chance and reliant upon the professionalism and expertise of history departments in schools. Inevitably the result will be very different knowledge outcomes across New Zealand.

Knowledge and skills

The ambiguity over the place of knowledge in The New Zealand Curriculum affects teachers' perceptions of both the importance and nature of knowledge. The 'directions for learning' section of the national curriculum places high importance on understanding of 'values' (for example, 'equity, through fairness and social justice'), 'principles' (for example, 'cultural diversity'), and 'key competencies' (for example, 'thinking') (The New Zealand Curriculum, 2007, pp. 9, 10, 12). Where the term 'knowledge' appears it is frequently stated in the same breath as skills or competencies, for example, 'equipped with the knowledge, competencies, and values', 'develop the values, knowledge, and competencies', 'through the social sciences students develop the knowledge and skills' (The New Zealand Curriculum, 2007, pp. 4, 8, 30). This suggests that the place of disciplinary knowledge in learning has morphed into, or is indistinct from, a focus on learning processes.

'Knowledge and skills' has become a lexical cluster (like 'checks and balances') where the individual words of the cluster may be weakened through their constant association. Indeed, in Chapter 7 of this volume, Chris Corbel goes further to argue convincingly that 'knowledge and skills has become a single lexical item in which the word "knowledge"

in particular has become "delexicalised" '. David Lambert (2011) argues that at play are 'cultural and economic influences that value skills over knowledge and "learning how to learn" over understanding' (p. 248). Similarly, with reference to the teaching of history in England, Christine Counsell (2000) argues that 'when content is compared to skills as a teaching objective it gets bad press' (p. 60).

In history teaching, the focus upon developing students who can follow disciplinary practices and 'act like historians' has been prevalent for several decades and is very clearly captured in The New Zealand Curriculum's emphasis on methodology at the expense of content. Students engage in processes of historical research, primary source interpretation, and weighing up evidence for its bias and reliability. It is assumed that, through inducting students into historians' practices, induction into historical knowledge will follow. However, as Keith Barton (2005) points out, in educational settings, attempts to replicate historians' approaches to primary source material 'often reveals fundamental misconceptions about history' (p. 746). Barton and Levstik (2004) argue that when learner processes are 'linked exclusively to presumed disciplinary structures' or reduced to a set of narrow and specific procedures 'they become ends in themselves rather than tools for pursuing historical understanding' (p. 187). While there can be little doubt that students benefit from pedagogies which target skills development it raises concerns that the power implicit in knowledge acquisition is being overlooked. So it is the ingredient of historical content and its interrelationships with these history concepts and methodologies that need careful consideration if powerful knowledge is to be delivered to students. The power of any knowledge of history only emerges when such concepts are perceptively applied to suitable contexts. The power lies in the understanding of the historical circumstances under study, and on the transferability and universal relevance of such knowledge. Therefore, an appropriate balance between skills and knowledge needs to be debated and the role of curricula in this issue requires consideration.

Knowledge selection

Given that suitably selected history knowledge has the potential to be powerful, those who decide 'what knowledge' play a critical role. This brings us to the point where powerful knowledge, the power of the knower, and the knowledge of the powerful intersect. Counsell (2000) suggests that 'To decide what history is to be taught . . . is to exercise phenomenal power. Better, then, say the nervous, not to prescribe it

at all' (p. 61). History education is often criticised for being associated with 'collective memorialising', where heroic figures and events in a nation's history are taught in the interests of the nation building. History curricula are also sometimes criticised for overemphasising national histories and not adequately catering for multicultural communities of learners. However, 'the holy grail of an ethnically, culturally, socially neutral history . . . is arguably just as dangerous' (Counsell, 2000, p. 61) and problematic. The opportunity for the 'knowledge of the powerful' to influence what history is taught is currently evident in debates over history education in England. The close association of England's Education Secretary, Michael Gove, with what should be taught in the 'New History' suggests a high degree of political interest in school history (Ellis, 2013; Mansell, 2013).

In shifting responsibility for the selection of knowledge from a national body to individual schools and teachers, the sensitivity and contestability often associated with mandated national history curricula can be avoided. Criticisms of school history being socially constructed and the outcome of influential power relations may be reduced. However, the absence of direction in a national document may give absolute power to an individual history teacher or to a community lobby group. Whether history in The New Zealand Curriculum exemplifies a 'hands-off', high-trust approach, or an indifference to the importance of knowledge, is debatable. What is clear is that the present autonomy over selection of history content gives considerable responsibility to teachers and schools for powerful knowledge and that, despite a national curriculum, such freedom will inevitably produce marked variability between schools.

Perspectivism and relativism

A danger in the open New Zealand approach is that, at the point of knowledge selection, teachers may shift unknowingly into the realm of perspectivism and relativism where their choices are blinkered in several ways. These include their own personal biases, the limitations of their own knowledge, and an overemphasis on matching selection to the cultural or social environment of their students. The drive to make courses relevant to a school's community of learners can be a misunderstood notion. It may result in selections which limit understanding of the global world. For example, if students were to spend large amounts of time researching their family's histories through their family's stories then the knowledge they discover could be limited to 'memories'.

This lacks the disciplinary strength of knowledge of historical context or reference to other primary or secondary sources. This is not to say that studying family is 'bad' per se but that its power in a disciplinary sense may be limited where it is not supported by acquiring further knowledge. Such a study may also fail the test of objectivity and may be perceived to adopt a clearly horizontal position, to use a Bernsteinian term, a position rooted in social knowledge.

Conclusion

History as a discipline has the potential to project a powerful epistemic voice. However, its position is a fragile one. Disciplinary strength can be weakened when history is reframed by teachers to meet curriculum learning objectives. Complexities of programming and progression, the forces of assessment, and knowledge autonomy are elements of uncertainty which have the potential to dislodge history from a powerful knowledge spectrum. To achieve its epistemic status the knowledge selected and taught needs to derive from specialised disciplinary knowledge and to show an awareness of the broader conceptual, or bigger picture, implications that the knowledge will serve. The knowledge needs to take students beyond their existing experiences into the 'unknown', into the previously unlearned. This positions the knowledge within the scope of 'vertical' knowledge, and away from 'horizontal' or 'social knowledge'. Knowledge also needs to be understood as knowledge which is capable of change, recognising new interpretations and contestability. Furthermore history programmes need to be structured in a manner that reflects the complexity of weaving conceptual understandings, specificity, sufficiency, and progression in a robust manner. The power of knowledge in history therefore lies in its conceptual scope, its ability to transcend particulars of time and place, and its disciplinary rigour. In New Zealand, where teachers have the autonomy to determine knowledge selections and where The New Zealand Curriculum has broadly stated objectives, there can be little certainty over the power of the knowledge taught in schools.

Part IV

Pedagogical Implications of Powerful Knowledge

11

Sequencing Rules as a Condition of Knowledge Structure

Jeanne Gamble

Introduction: Access to success?

For many educators the supposition that a learning trajectory that starts in the subjective world of human experience does *not* give epistemological access to complex systematic knowledge would appear counter-intuitive and inimical to common sense. Yet, this is what the sociologist Basil Bernstein argues when he claims that such a trajectory is precisely what reproduces the age-old schism between mental and manual labour with its social class implications. Referring specifically to the visible pedagogies of the primary and secondary school that transmit context-independent meaning or un-commonsense knowledge and where school subjects are clearly delineated, he identifies the mode of pedagogic transmission that moves from 'concrete' to 'abstract' as the basis of the educational institution's function of positioning subjects ideologically:

> The sequencing rules regulate the temporal ordering of the content such that initial stages are concerned with the concrete and the learning of rote operations and relationships, and later stages are concerned with the abstract and the learning of principles. Thus visible pedagogies separate 'concrete' and 'abstract' in time, which becomes the basis for the separation (strong classification) of manual and mental labour. Visible pedagogies create and distribute different forms of consciousness.
>
> (Bernstein, 1981, p. 359)[1]

How is it that this sequencing rule distributes students differentially? This is where what Bernstein (1981) calls the 'hidden costs of visible

pedagogies' (p. 360) become pertinent. Two sites of acquisition are required for visible pedagogies to succeed: the school and the home, with the textbook as medium of transfer between them (which is why acquisition of the written code at an early age is so important). The subsidy provided by the discursive and interactional context of book-orientated homes facilitates early recognition of the school as a specialised knowledge context where concepts are defined through their principled relations with other concepts and only incidentally through direct connection with everyday or procedural referents. Even though a sequential ordering in time of 'concrete to abstract' or 'procedure to principle' is what is taught in class, students who recognise what the school context requires ignore such sequencing and take its opposite as the principle of knowledge progression. Where the home does not operate as a second site of acquisition, the risk of non-recognition is high and failure to acquire sequencing rules is particularly difficult to redeem. This, argues Bernstein (1981), leads to the creation of 'vast and often inadequate repair systems for those who cannot meet the sequencing rules' (p. 359).

So, if the school does not teach the sequencing rule of knowledge structure and if the home does not operate as a crucial second site of acquisition and if repair systems fail to effect 'repair', then ongoing educational disadvantage rather than a trajectory from 'access to success' seems the inevitable educational destiny of many young people, not only in schools but also in higher education where the legacy of poor schooling is often perpetuated in race and class terms.[2]

Against such sociological pessimism, the French philosopher Bernard Charlot (2009) urges us to pay close attention to what he calls the 'specificity of school activity' in order to understand 'how it is possible for pupils from the popular classes to be successful at school, despite the likelihood of the opposite being the case' (p. 91). This paper takes up the challenge through an exploration of the nature of conceptuality in different fields of knowledge specialisation. In his last paper, prepared in advance for an international symposium in his honour held in Lisbon in 2000 which, in the end, he was too ill to attend, Basil Bernstein referred to the restrictive references and low level of abstraction of the term 'pedagogy' on its own and announced his intention to move towards what he called a 'sociology for the transmission of knowledges'. Such a sociology, he explained, would focus, inter alia, on diverse sites of knowledge production, changes in knowledge forms, and new forms of sponsorship, curriculum design, and transmission (2001, pp. 367–8). As always, he remained concerned

about which new knowledge forms would be distributed to whom and how a new diversity of knowledges would map onto educational institutions as we currently know them. It is in this spirit that this chapter aims to contribute to an exploration of some of the differences between 'pedagogy' as a general concept and 'transmission of knowledges' with its strong inference that the structure of knowledge itself, in other words its conceptual order, carries a particular pedagogic entailment.

In order to establish a strong realist basis for the argument and to avoid self-referentiality, a conceptual vocabulary is introduced which derives from Sir Karl Popper's 'three worlds' thesis, followed by Bernard Charlot's re-description of these different worlds in educational terms. This provides an independent frame for returning to Bernstein's own work to show how he consistently models the requirement to make what the post-Vygotskian Vasili Davydov describes as a 'necessary connection of the individual phenomena within a certain whole' so that principled knowledge becomes the 'law of formation of that whole' (Davydov, as cited in Tuomi-Gröhn and Engeström, 2007, p. 29). This characterisation by Bernstein of the part–whole nature of conceptuality tends to be obscured by the dominant influence which Systemic Functional Linguistics (SFL) currently has on our understanding of how specialised knowledge comes about. Concepts are of course carried in and through language but concepts are also material abstractions in their own right. This chapter argues that a collateral relationship between these two modalities of conceptuality is crucial for an adequate understanding of the 'transmission of knowledges' on both curriculum and pedagogic grounds.

A realist conceptual vocabulary

Popper's three worlds

In putting forward a threefold realism, the philosopher of science, Karl Popper (1978) challenges both a materialist monism and a body–mind dualism to propose a universe constituted by at least three different but interacting sub-universes. World 1 is the world of concrete material objects and living biological organisms; world 2 is the world of subjective experiences and of our mental and psychological states and processes; and world 3 is the world of abstract products of the human mind such as languages, scientific theories, and works of art. The distinction drawn between world 2 thought processes and world 3 thought contents leads us to understand that thought contents are

more than aspects of thought processes and that world 3 objects are not merely abstractions from concrete thought processes. They are objects in an independently existing reality in that they can stand in logical relationships with other such objects, they have logical consequences and they have causal effects on our world 2 experiences as well as on our world 1 brains and material bodies. Just as the existence of a world 1 physical object such as, for instance, a mountain is not dependent for its existence on anybody having seen or thought about this mountain, the logical consequences of world 3 objects are not dependent on anybody having grasped such consequences in order for them to be consequences.[3]

As products of the human mind, thought contents come into being through the linguistic formulation of thoughts, as a world 2 process, but the *logical content of those thoughts are not to be equated with the process of their formulation*. In Popper's own words:

> Let me go back to my original central thesis. My thesis was that world 3 objects such as theories play a tremendous role in changing our world 1 environment and that, because of their indirect causal influence upon material world 1 objects, we should regard world 3 objects as real. Nothing depends here on the use of the world 'real': my thesis is that our world 3 theories and our world 3 plans causally influence the physical objects of world 1; that they have a causal action upon world 1.
>
> The influence is to the best of my knowledge always indirect. World 3 theories and world 3 plans and programmes of action must always be *grasped* or *understood* by a *mind* before they lead to human actions and to changes in our physical environment, such as the building of airports or of aeroplanes.
>
> (Popper, 1978, p. 164)

This, Popper argues, is why we have to recognise world 3 as a separate sub-universe and not simply as an aspect of human consciousness and thought. It is this formal world of objective, systematic knowledge that Bernstein describes as vertical discourse and which he similarly demarcates strongly from the world of common sense or subjective experience, which he terms horizontal discourse.

Charlot's epistemic self

For Charlot (2009) the distinction which Popper draws between world 3 thought contents and world 2 thought processes enables the school

to be re-described as a place where the world is treated as an 'object of thought' and not as a 'place of experience'.

When the pupils do not manage to make the difference between the two and relate to the former as if it was the latter, they will have problems at school (Charlot, 2009, p. 91).

In relating to the world as an object of thought, the empirical Self is constituted as the epistemic Self through two fundamental processes which define the specific activity of the school (to which was referred earlier). The first is distancing-objectification. Through language, the student leaves the subjective world of experience to enter the world of objective thought. In the complementary process of systematisation a concept is defined as the set of relations that it maintains with other concepts, not by direct connection with a referent. Being able to think in systems of connections is to understand the internal structure of subject disciplines such as mathematics, physics, and history.

The complementarity of these two processes is crucial to the argument put forward in this chapter; equally crucial is the understanding that complementarity is not elision. Why this is important will become clear in the next sections where we turn to the work of Bernstein and particularly to his mutually productive early collaboration with SFL.

The relation between SFL and Bernstein's early work on socialisation into linguistic contexts

Acknowledging Michael Halliday and Ruqaiya Hasan's respective contributions to his development as 'incalculable' in terms of collegial collaboration which yielded what he calls 'a theory where mutual translation between the languages of sociology and linguistics was possible, effective and creative for both languages' (Bernstein, 2000, pp. 145–6), Bernstein nevertheless writes that language was not his primary interest, but arose out of his dissatisfaction with sociological theories of socialisation in the 1950s.

The language developed to support the early social-linguistic thesis theorised restricted codes, as referring to particularistic, local meanings in which principles and procedures were viewed as relatively implicit, and elaborated codes, as referring to less local and more universalistic meanings in which principles and procedures were deemed to be made linguistically explicit. In these formulations the terms 'particularistic' and 'universalistic' bore a close relation to whether or not a meaning was tied to its linguistic context. The notion of interrelated linguistic contexts in which children are socialised into language derived directly from Halliday's SFL (Bernstein, 1971, pp. 175–6; 1990, pp. 94–6). This,

in its turn, bore a close relation to Hasan's (1968) theory of cohesion: whether speech stands apart from its context so that meanings are made explicit (anaphoric or cataphoric reference, internal to the text itself) or whether speech is part of the context (exophoric reference, where the reference is outward to the situation or environment of the speaker) (as discussed in Cook-Gumperz, 1973, pp. 136–49).

The relationship between code and context, as discussed above, does not presuppose or imply any particular form of sequencing rule in terms of these differentials and found experimentally to be class-based orientations to meaning (Bernstein, 1981; Holland, 1981). In SFL, generally, there is, however, a sequencing rule. Arguing that the 'ontogenesis of language is at the same time the ontogenesis of learning' and that 'language is the essential condition of knowing, the process by which experience becomes knowledge' (Halliday, 1993, pp. 93–4), Halliday emphasises the semiotic nature of language development and argues that a theory of language-based learning should make it possible to capture a developmental continuity from birth to adult life, from the construal of commonsense knowledge in the familiar contexts of home and neighbourhood through primary and secondary school into the technical knowledge of the disciplines, as well as a structural continuity in terms of 'learning through language'. Here we thus have an unambiguous sequencing rule: from commonsense knowledge to un-commonsense knowledge.

Bernstein and SFL on the sequencing rule of knowledge structure

Against this background we are now in a position to consider the relation between sequencing and knowledge structure from both a Bernsteinian and an SFL vantage point. In the third major theoretical phase of his work, Bernstein transposes an earlier distinction between 'commonsense' and 'uncommonsense knowledge' (1977, p. 99) to a higher level of generality. Experiential, everyday knowledge is characterised as *horizontal discourse* which is 'oral, local, context dependent and specific, tacit, multi-layered and contradictory across but not within contexts'. Knowledge that is 'freed from the particular, the local' is termed *vertical discourse* which takes the form of 'a coherent, explicit and systematically principled structure', organised either hierarchically or horizontally (2000, p. 157). While the distinction between hierarchical and horizontal knowledge structures deserves and has received scholarly attention (see, for instance, Muller, 2007; 2011), the enquiry here is

about a putative relation between *horizontal* and *vertical discourse*. In this regard Bernstein offers little by way of analytical comment, except to caution, in curricular terms, that the inclusion of segments of horizontal discourse into a curriculum, usually included as a strategy to facilitate access, limits transmission of subject knowledge to the procedural or operational level (2000, p. 169).

In SFL, the approach is different. Noting the early affinity between research done by the 'Sydney School' of SFL and Bernstein's work, Martin (2007) explains how, in the context of secondary school literacy development, it became increasingly important to focus on knowledge encoded in various genres. Inspired by Bernstein's developing concern with knowledge structure, he and various cited colleagues began to explore knowledge structures as fields of discourse. Setting up a cline (a continuum with a number of gradations) from 'common sense' to 'uncommon sense', the first mapping of fields[4] was done in terms of the way in which he imagined they were *learned*, as well as according to their degree of lexical specialisation (as discussed in 2007, p. 38). From the SFL perspective, grammatical metaphor, whereby a process first construed as a verb is reconstrued in the form of a noun – thus a transformation in the grammar from one class to another (Halliday and Martin, 1993, p. 13), is the 'key resource used to construct the un-commonsense knowledge of vertical discourse' (Martin as contributor to a conversation between Christie, Martin, Maton and Muller, 2007, p. 243).

Successful control of literacy for the secondary school, in which grammatical metaphor plays a crucial role, facilitates entry to un-commonsense experience because it allows the writer to be distanced from the immediate experience, achieving a degree of detachment from the event. It is precisely this capacity to draw back from experience and build abstraction – be that achieved in writing a valued story, in reviewing a novel or film, or in writing an expository text on some social issue – that subject English actually rewards, though for the most part, English teachers are not aware of this (Christie as contributor to a conversation between Christie, Martin, Maton and Muller, 2007, p. 245).

In this move, SFL simultaneously uses grammatical metaphor to explain the shift from horizontal to vertical discourse as a shift from particular to general meaning and to explain hierarchy in knowledge structure as abstraction through nominalisation. Two separate if related axial planes are explained in the same way, as semantic trajectories. Applying this logic to history as a key humanities discipline, SFL is able to offer a systematic typology of different kinds of 'historical genres', based on a distinction between texts which foreground

temporal connections and unfold chronologically in 'field time' as historical *recounts* of what happened and texts which unfold rhetorically in 'text time' as historical *accounts* which foreground causal connections. Ordered as a learner pathway along a 'cline of abstraction' (Martin and Rose, 2008, p. 131), the system of genres begins with genres similar to those students would be familiar with in their everyday world outside of school: personal recount ('what happened to me') and autobiographical recount ('the story of my life') where meaning is context specific and moves gradually to argumentation and causality as forms of grammatical metaphor. The sequencing rule is again unambiguous in that, as in Halliday's requirements for a theory of language-based learning, it encapsulates the continuity of learning as a semiotic process. At the same time, grammatical metaphor or abstraction in language is viewed as 'the watershed demarcating horizontal and vertical discourse' (Martin, 2007, p. 244). SFL therefore does not in any way negate Bernstein's distinction between horizontal and vertical discourse but, based on assumptions of developmental and structural continuity, it offers learners a pathway across the boundary.

Does this mean that Bernstein is wrong in his assertion that a pedagogy with this sequencing rule positions students ideologically in terms of the mental–manual division of labour? Such a question cannot be answered categorically with either a 'yes' or a 'no'. Muller depicts the relation between Bernsteinian sociology and SFL in nuanced terms when he asserts that 'in the end conceptual consilience goes only so far' even though 'there are several concepts which quilt the two disciplines together' (Muller, 2011, p. 30). In order to grasp how Bernstein and the SFL group part ways it is necessary to utilise the conceptual language provided by Popper and Charlot.

Thought processes and thought contents

Christie's depiction of entry into un-commonsense experience through grammatical metaphor as a process of drawing back from experience and building abstraction (as cited earlier) positions the relation between Popper's world 2 (thought processes) and world 3 (thought contents) as a semantic shift premised on a movement from context dependence to context independence. For Popper himself this would not be sufficient. The logical relationships between world 3 objects are not only constructed through textual specialisation but their consequences are real in the sense that Einstein's Special Theory of Relativity had real consequences. Taking this particular example a bit further, Popper would

argue that it was not Einstein's thought processes or the ways in which these were technicalised or realised nominally and written down as specialised text which played a causal role in the construction of the atom bomb but rather the *logical contents* of his formulae and theories (Popper, 1978, p. 155).

It is for this reason that Charlot finds it necessary to separate out distancing-objectification through language from systematisation in terms of logical non-empirical connections between concepts. While SFL positions grammatical metaphor in its various textual manifestations as the route to building 'abstraction' in both semantic and conceptual terms (as two sides of the same 'abstract' coin), Bernstein seeks to find ways of showing abstraction *as* abstraction. In this he joins the post-Vygotskians in their insistence that it is not only language but also *models* that bring logical relations between content objects to the fore. Modelling is a specialised kind of symbol-sign idealisation in science and the essence of conceptuality is that we mentally construct idealised objects and the system of their connections in non-empirical space and time.

Models are a form of scientific abstraction of a particular kind, in which the essential relationships of an object which are delineated are reinforced in visually perceptible and represented connections and relationships of material or symbolic elements. This is a distinctive unity of the individual and the general, in which the features of a general, essential nature come into the foreground. It should be emphasised that the visual-pictorial, concrete-object expression of the essential relationships of reality is not an act of elementary and primary 'sensory judgement' of them. Models and the model conceptions that are related to them are the products of complex cognitive activity, which includes above all the mental processing of raw sensory material, purification of incidental features from it, and so on. Models function as products and as a means of accomplishing this activity (Davydov, 1990, p. 123).

Nowhere is the systematic part–whole nature of conceptuality better illustrated than in Bernstein's own considerable body of work where visual models are continually used. Consider for instance the following written description of his thesis about the relation between 'codes, modalities and the process of cultural reproduction':

> 'Class relations' will be taken to refer to inequalities in the distribution of power and in principles of control between social groups, which are realized in the creation, distribution, reproduction, and legitimation of physical and symbolic values that have their source

> in the social division of labour. In terms of the particular problems of the relationships between class and the process of its cultural reproduction, as developed in this thesis, what has to be shown is how class regulation of the distribution of power and of principles of control generates, distributes, reproduces, and legitimates dominating and dominated principles regulating the relationships within and between social groups and so forms of consciousness.
>
> (Bernstein, 1981, pp. 327–8)

Bernstein's writing is notoriously complex and analysis of the above text in terms of normalisation and lexical density would show a range of textual devices that provide resources for compressing and reifying complex sets of processes or events into 'things' which can be reasoned succinctly. It is, however, the visual models (see Figure 11.1 for an example) that often accompany expository description that show hierarchies of abstract 'thought' relations.

In the interview with Solomon, which concludes his final book, Bernstein is asked why he so often uses actual diagrams to model relations, mechanisms, and transformations. In response he describes his theory as 'a series of formal models ranging from macro to micro levels. It is possible to abstract a model from the progression for a

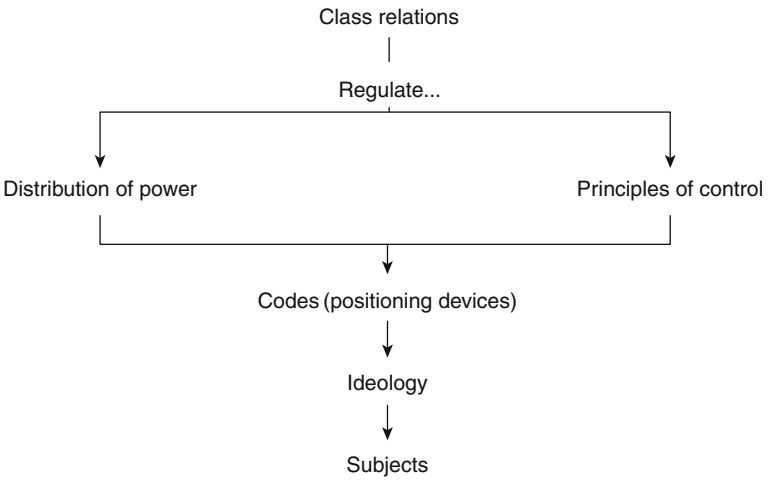

Figure 11.1 Codes, modalities, and the process of cultural reproduction: a model (adapted from Bernstein, 1981, p. 328)

particular empirical enquiry and ignore logically higher or lower models' (Bernstein, 2000, p. 209).

Whether pictorial-iconic as in drawings or symbolic as in algebraic equations, the visuality of the model interprets structure conceptually and hierarchically. Moreover and equally crucial, Bernstein uses models and modelling as strategies, not in mathematics or in the natural sciences, but in the social sciences, to show the hierarchical aspect of conceptuality in *all* vertical discourses.

A sequencing alternative?

If Basil Bernstein were to have worked towards a 'sociology for the transmission of knowledges', arguments for the reversal of the sequencing rule of visible pedagogies would possibly have been high on the agenda. A primary concern would have been with establishing a strong relation between knowledge structure and pedagogy to transmit the systematic part–whole nature of conceptuality as it manifests in different disciplinary fields and their respective school subjects. In Popper's terms he would have started with world 3 thought contents and not with world 2 thought processes, he would have joined post-Vygotskians such as Davydov and his colleagues in being critical of both traditional and what they call 'guided discovery' forms of classroom practice (more commonly known as constructivism) (Davydov, 1990, p. 3; Young, 2008a) and he would have supported their emphasis on structure as the essential *content* of knowledge transmission (Schmittau, 2005; Gamble 2014).

But perhaps all this is conjecture. What is important is what we as a realist research community are doing to research and understand ways of helping students to turn access into success. In the SFL community, in the Bernsteinian community, and in subject-disciplinary communities numerous studies have been and are being conducted[5] to develop conceptual meta-languages and analytical schemas that contribute to reversing an 'overall drift to invisibility of content', as Christie and Macken-Horarik (2007, p. 157) argue in relation to the subject English in the school curriculum. Whether such intent succeeds depends crucially on the ideological framing of curriculum in different countries.

On this count it is worth noting Bertram's (2009) tracking of the recontextualising of the school history curriculum that was introduced to countermand the apartheid era's school history curriculum in South Africa. Bertram examines different levels of the pedagogic device from the field of knowledge production by historians through the

recontextualisation by curriculum writers and teacher training to show how, at the level of teachers' pedagogic and assessment practices, the intertwining of substantive-conceptual and syntactic-procedural knowledge found in the work of historians is no longer in operation. Both are formally included in the curriculum but the nature of the overarching outcomes-based curriculum framework means that assessment standards are described in terms of the skills that students are required to develop and not in knowledge terms. Her study shows that in the history classroom, 'covering' the assessment standards becomes the main criterion for both teaching and assessment. Not only is the substantive-conceptual dimension of history knowledge back-grounded but, to make matters worse, so is the substance of the procedural or syntactic dimension. Assessment tasks give the appearance of testing historical procedural or syntactic knowledge but, in fact, they assess generic comprehension and reading skills, with most of the test questions requiring only reproduction of information provided in the sources that are provided as part of the test or examination.

In further or vocational and higher education tensions between an emphasis on 'skill' or 'practice' and an emphasis on knowledge (Gamble, 2013; Muller and Young, 2014) similarly identify focal points for further investigation. The way of reversing the sequencing rule that masks its distributive consequences so successfully, while perhaps counter-intuitive and inimical to common sense, is a common quest that extends beyond schooling to all areas of the educational endeavour.

Notes

1. I am indebted to Johan Muller for drawing my attention to this paper and to this particular section of the paper.
2. As an example of this relation, Slonimsky and Shalem (2005) and Fisher and Scott (2011) offer insightful qualitative and quantitative analyses, respectively, of what the latter authors term the 'articulation gap' between schools and higher education institutions in South Africa.
3. Popper (1978) offers Einstein's Special Theory of Relativity as an example of a theory having more logical consequences than what Einstein thought about when he formulated the theory in 1905.
4. 'Field' is a specialised term in SFL.
5. See Gamble (2014) for a fuller discussion of various contributions.

12

Building Powerful Knowledge: The Significance of Semantic Waves

Karl Maton

Introduction

What is 'powerful knowledge'? Some social realists (Young, 2012a) and educationalists (Department for Education, 2011) argue that 'powerful knowledge' should be universally accessible, but what is this to call for? The term itself is powerful emotively, conjuring notions of something worth demanding for all. Yet, the idea is as yet less powerful intellectually – we are only beginning to explore what 'powerful knowledge' might comprise. Following Bernstein's (2000) account of 'knowledge structures', one characteristic highlighted is a capacity for ideas or skills to extend and integrate existing ideas or skills. However, the nature of such cumulative knowledge-building and how it can be enabled in practice remain opaque. The notion of 'powerful knowledge' thereby raises a valuable series of theoretical and empirical questions for research. In this chapter I will explore how Legitimation Code Theory (LCT), a social realist framework that builds on the sociology of Basil Bernstein, is helping to shed light on these issues.

Specifically, the chapter will discuss how a relatively new dimension of LCT – Semantics – is underpinning research into achievement and knowledge-building in education. Concepts from Semantics are being adopted by a growing number of studies into a diversifying range of institutions, disciplines, and artefacts, from schools to universities, physics to jazz, and theoretical frameworks to classroom practice (Maton et al., 2015). This chapter aims to offer introductory insight into why these ideas are gaining traction by illustrating a conjecture that studies using these ideas are giving rise to. In short, research suggests that key characteristics of knowledge-building and achievement are *semantic waves* (recurrent shifts in context dependence and condensation of

meaning) that *weave* together different forms of knowledge. In contrast to much existing debate in which types of knowledge are alternately valorised and criticised, this research proposes that 'powerful knowledge' comprises not one kind of knowledge but rather mastery of how different knowledges are brought together and changed through semantic waving and weaving.

The chapter begins by defining the central concepts of *semantic gravity* and *semantic density*, and how they combine to conceptualise organising principles of practices as *semantic codes*. Second, I summarise their provenance in the sociological framework bequeathed by Basil Bernstein and review how they advance that approach and overcome a dichotomy in educational thinking more generally. Third, I describe how research is using the analytic method of *semantic profiling* to trace changes in semantic codes over time. I illustrate their use in exploring achievement, knowledge-building, 'critical thinking', and other valued educational practices, drawing on examples from studies of student assessments, classroom practice, and theoretical frameworks. For brevity I focus on illustrating the 'semantic waves' conjecture, emphasising the diversity and complexity of such waves. Lastly, I discuss how the concepts themselves enable the cumulative building of powerful knowledge.

Legitimation Code Theory: Semantics

Legitimation Code Theory (LCT) is a sociological framework for researching and informing practice. LCT is associated with 'social realism', a coalition of approaches that construe knowledge as both socially produced and real, in the sense of having effects (Maton and Moore, 2010; Wheelahan, 2010). LCT comprises a multidimensional toolkit, where each dimension offers concepts for analysing a set of organising principles underlying practices as *legitimation codes* (Maton, 2014). There are currently five dimensions to LCT, each centred on conceptualising a different form of legitimation code.[1] In this chapter I focus on the dimension of 'Semantics' which conceives social fields of practice as *semantic structures* whose organising principles are conceptualised as *semantic codes* comprising *semantic gravity* and *semantic density*.[2]

Semantic gravity refers to the degree to which meaning relates to its context and may be stronger (+) or weaker (−) along a continuum of strengths. The stronger the semantic gravity (SG+), the more meaning is dependent on its context; the weaker the semantic gravity (SG−), the less dependent meaning is on its context. For example, the meaning of the name for a specific plant in biology or a specific event in history

embodies stronger semantic gravity than that for a species of plant or a kind of historical event, which in turn embodies stronger semantic gravity than processes such as photosynthesis or theories of historical causation. Semantic gravity thus traces a continuum of strengths with infinite capacity for gradation. One can also dynamise this continuum to analyse change over time in terms of *weakening* semantic gravity (SG↓), such as moving from the concrete particulars of a specific case towards generalisations and abstractions, and *strengthening* semantic gravity (SG↑), such as moving from abstract or generalised ideas towards concrete and delimited cases.

Semantic density refers to the degree of condensation of meaning within practices, and may be stronger (+) or weaker (−) along a continuum of strengths. The stronger the semantic density (SD+), the more meanings are condensed within practices; the weaker the semantic density (SD−), the less meanings are condensed. The strength of semantic density characterising a practice relates to the *semantic structure* within which it is located. For example, the term 'gold' may be commonly understood to denote a bright yellow, shiny, and malleable metal used in coinage, jewellery, dentistry, and electronics. Within the discipline of chemistry it may additionally signify such meanings as an atomic number, atomic weight, electron configuration, lattice structure, and much more. Many of these meanings involve relations to other meanings as part of compositional structures, taxonomies, and explanatory processes; for example, its atomic number represents the number of protons found in the nucleus of an atom, identifies it as a chemical element, and is situated, inter alia, within the periodic table, among many other relations. Thus, in chemistry 'gold' is relationally situated within a complex semantic structure that imbues the term with a greater range of meanings and thus relatively strong semantic density. This strength is, though, not intrinsic to the word itself. The semantic density of the knowledge expressed in research publications is likely to be stronger than in textbooks, which in turn may be stronger than in classroom discourse or student work products, for apprenticeship into a subject area involves learning an increasingly articulated, complex, and intricate semantic structure of meanings.

Semantic density thereby traces a continuum of strengths, with infinite capacity for gradation. This continuum can be dynamised to describe *strengthening* semantic density (SD↑), such as moving from a term, symbol, or practice condensing a small number of meanings towards one implicating a greater range of meanings. For example, bringing together places, periods, customs, beliefs, and so on as

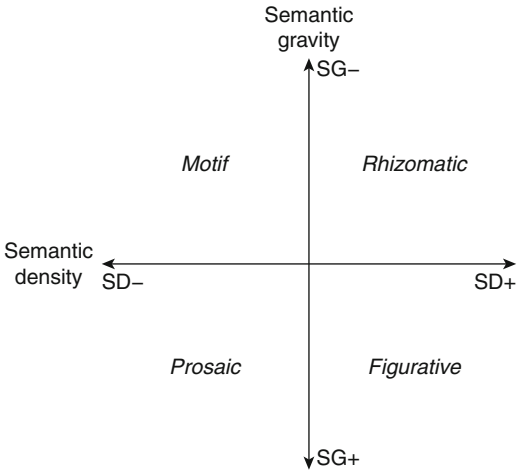

Figure 12.1 The semantic plane

'Mycenaean Greece' in history, or relating cell structures, proteins, or pigments of a leaf to describe 'photosynthesis' in biology. Conversely, one can describe *weakening* semantic density (SD↓), such as moving from a highly condensed symbol to one involving fewer meanings. For example, 'unpacking' technical concepts from an academic source into simpler terms typically enacts a limited number of their meanings, weakening semantic density.

As will become obvious, the examples given above for relative *strengths* of semantic gravity and semantic density are neither definitional nor definitive. The form taken empirically by different strengths depends on the specificities of the problem-situation under consideration. Accordingly, a major project is currently developing means for typologically embracing features characteristic of different strengths. However, 'semantic gravity' and 'semantic density' are not themselves dichotomous types. *All* practices are characterised by *both* semantic gravity *and* semantic density; what differs are their strengths, which may vary independently to generate *semantic codes* (SG+/−, SD+/−). Figure 12.1 includes four principal modalities:

- *rhizomatic codes* (SG−, SD+), where the basis of achievement or status comprises context-independent and highly complex meanings;
- *prosaic codes* (SG+, SD−), where legitimacy accrues to more context-dependent practices with simpler meanings;

- *motif codes* (SG−, SD−), where meanings of legitimate practices are relatively context independent but also relatively simple; and
- *figurative codes* (SG+, SD+), where legitimacy is related to context-dependent practices that condense manifold meanings.

Code theory extended: Semantic codes

Concepts from Semantics were first presented at conferences (2007 in Lyon and 2008 in Cardiff) and in associated publications dedicated to exploring Basil Bernstein's sociology (Maton, 2008; 2011a). As further discussed in Maton (2009; 2011b; 2013, 2014), 'semantic gravity' and 'semantic density' originate from developing ideas latent within Bernstein's (2000) framework to meet the demands of empirical research. Studies using other dimensions of LCT increasingly highlighted issues of context dependence and condensation as significant for understanding their objects of study (Maton et al., 2015). Turning to Bernstein's (1971) theory, context dependence is highlighted in early work distinguishing 'elaborated codes', which 'orient their users towards universalistic meanings' and 'are less tied to a given or local structure', from 'restricted codes' that 'orientate, sensitize, their users to particularistic meanings' and 'are more tied to a local social structure' (1971, p. 176). Context dependence also resurfaced in Bernstein's later distinction between segmented 'horizontal knowledge structures' and integrating, generalising and abstracting 'hierarchical knowledge structures' (2000). Both models also point towards condensation, albeit in different ways: the earlier distinction (1971) foregrounds 'condensed symbols' in terms of whether understandings are explicated or shared among actors and left unarticulated; and 'knowledge structures' (2000) raise questions of how ideas are interrelated in ways enabling more or less complexity of meaning.

Though latent as possibility, conceptualisations of context dependence and condensation within Bernstein's framework remained tacit, entangled, and descriptive. Both models offer suggestive dichotomous types but, as Bernstein argued, at this stage of theorisation understanding of the principles organising such dichotomies is 'limited' and 'very weak' in its 'generating power' (2000, p. 124). This power was increased by the concepts of 'classification' and 'framing' that generate one set of organising principles as 'pedagogic codes' (p. 124). However, these concepts did not capture all characteristics described by the dichotomous types. As Bernstein emphasised, they were not intended as the end of the story – further theorisation of this kind would be required. The concepts of 'semantic gravity' and 'semantic density' that generate 'semantic

codes' extend the framework by revealing another set of organising principles. They represent the same *kind* of concepts as Bernstein's 'pedagogic codes', but focused on different features underlying practices (Maton 2014, pp. 125–47).

One implication of the greater 'generating power' offered by semantic codes is to avoid a deep-seated dichotomy in educational thinking more generally. As Bernstein (2000) highlighted, a contrast between 'theoretical' and 'everyday' knowledges has repeatedly reappeared in various guises; indeed, it recurs in debates over 'powerful knowledge' (Young 2012a). These forms represent realisations of *rhizomatic codes* and *prosaic codes*, respectively, where semantic gravity and semantic density have inverse strengths (context-independent, condensed meanings and context-dependent, simpler meanings). However, both may also be relatively weak (*motif codes*) or relatively strong (*figurative codes*); that is, knowledge that is context independent but condenses little (SG−, SD−) or context dependent but condenses manifold meanings (SG+, SD+).

The concepts thereby highlight what the commonly used dichotomy obscures. For example, Figure 12.2 summarises Shay's analysis (2013) using semantic codes of different kinds of curriculum. Of these, the dichotomy would typically foreground 'theoretical' and 'practical' curricula but obscure 'generic' and 'professional/vocational' curricula. Such blind spots have consequences for education, such as erasing differences

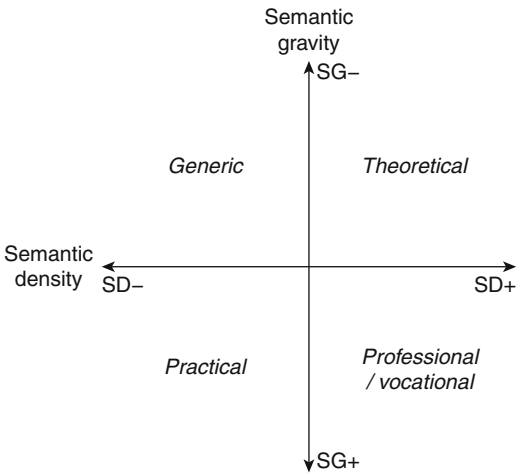

Figure 12.2 Forms of curricula (adapted from Shay, 2013, p. 10)

between 'theoretical' and 'generic' knowledges and presenting a false choice to professional and vocational educators between emulating 'theoretical' curricula or becoming 'practical' (and typically work based). On the former, semantic codes highlight that while they are abstract and generalised, generic curricula (SG−, SD−) do not constitute constellations of meaning as complex as traditional disciplines. On the latter, semantic codes reveal that professional and vocational practices (SG+, SD+) are not simply context dependent but may also comprise highly condensed meanings; that is, they are neither a contextualised version of 'theoretical' curricula nor a conceptualised version of 'practical' curricula but rather possess their own distinctive organising principles.

Code theory dynamised: Semantic profiles

Semantic codes go further than revealing additional kinds of knowledge practices. While integrating a typology, they also offer a topology; the semantic plane (Figure 12.1) represents a potentially infinite number of relational positions. This is invaluable for research. Many models of knowledge are of limited practical use. As researchers soon experience, simple typologies often struggle to capture both empirical practices, which rarely fit neatly within their categories, and processes of change within and between types. As I argue elsewhere (Maton, 2013; 2014), the answer is not to abandon typologies but rather to additionally capture the organising principles that generate the knowledge practices they delineate. By avoiding homogenising and strongly bounded categories, the concepts comprising 'semantic codes' enable research to conceptualise differences and movements not only between but also within forms of knowledge practices. That is, one can analyse strengthening and weakening of semantic gravity or semantic density (SG↑↓, SD↑↓) both between and within semantic codes (across a quadrant of Figure 12.1).

The capacity of the concepts to explore processes of change is further enhanced by the analytic method of *semantic profiling* (Maton, 2013). Tracing the strengths of semantic gravity and semantic density of practices over time gives their *semantic profile* and associated *semantic range* between their highest and lowest strengths. Figure 12.3 offers a heuristic representation of three illustrative profiles. Portraying a simple scale of strengths on the *y*-axis and time on the *x*-axis (such as the unfolding of classroom practice, curriculum, or text), Figure 12.3 traces a high *semantic flatline* (A), a low *semantic flatline* (B), and a *semantic wave* (C), and shows their respective *semantic ranges,* where A and B have much lower semantic ranges than C.

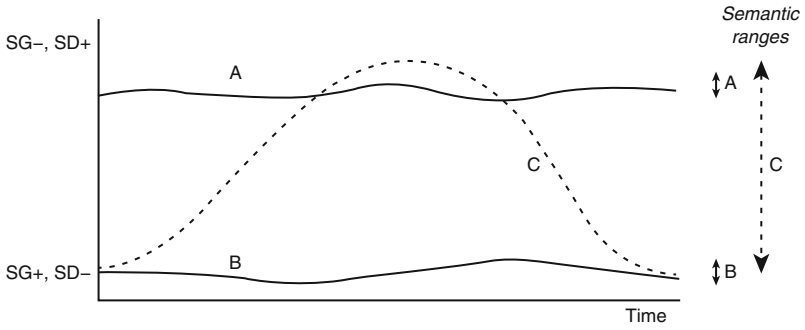

Figure 12.3 Three simple semantic profiles

I should emphasise that these and other profiles I discuss in this chapter are simplified for brevity. First, they combine semantic gravity and semantic density as a single line, with their strengths moving together inversely. This will bring out more clearly the argument, further below, that 'power' resides in neither side of the common dichotomy but from how such knowledges are related. However, as I emphasise, the strengths of semantic gravity and semantic density may change independently. Tracing semantic gravity and semantic density separately (as studies often do) reveals where they are both relatively strong and both relatively weak, embracing all four semantic codes. Second, as I demonstrate later, semantic waves are not necessarily bell shaped. Lastly, the featured profiles are heuristic. As mentioned earlier, research is currently developing sophisticated instruments for calibrating typological scales of strengths with precision.

Nonetheless, these simplified examples provide a starting point for illustrating that semantic profiling reorients thinking about how knowledge may be 'powerful' and what enables building over time. By dynamising analysis, it shifts the focus from particular forms to how knowledge changes over time. Crucially, it is also underpinning a growing body of studies into intellectual practices, curriculum, pedagogy, and assessment. This has been a constant thread. Rather than theoreticist comparisons of ideas or proclamations of meta-theoretical tenets, the concepts emerged from and for empirical research and continue to evolve in close engagement with real data. Accordingly, I now illustrate their value through summarising several illustrative studies. For brevity, I confine my discussion to one conjecture emerging from research concerning the significance of semantic waves.

Semantic waves

Educational achievement

A burgeoning range of studies are exploring the bases of achievement in education by analysing the semantic profiles of student assessments. This research increasingly suggests that knowledge practices expressing semantic waves – strengthening and weakening of context dependence and condensation of meaning – are rewarded across subject areas and levels of education. For contrast, I shall briefly consider examples of the humanities in schooling and 'critical thinking' in higher education.

A compulsory unit of secondary school English for students taking the Higher School Certificate (in New South Wales, Australia) requires students to explore abstract notions such as 'the journey' in relation to diverse texts (Maton, 2014). Between 2005 and 2008, students drew on three textual examples to answer: 'To what extent has studying the concept of imaginative journeys expanded your understanding of yourself, of individuals and of the world'? Figure 12.4 represents the semantic profiles of two essays. The high-achieving essay (unbroken line in Figure 12.4) was included in official syllabus documents as an exemplary model. This essay begins and ends by drawing on condensed literary meanings (stronger semantic density) to bring together its examples in relation with a generalising and abstract idea (weaker semantic gravity); for example:

> The journey, especially in the imaginative sense, is a process by which the traveller encounters a series of challenges, tangents and serendipitous discoveries to arrive finally, at a destination and/or transformation.
>
> (quoted, Maton, 2014, p. 118)

From this relatively high start, the essay moves down to describe simply the concrete particularities of each example, before moving upwards towards more generalised and condensed 'literary' ideas concerning the text. This movement is repeated throughout the essay, tracing a series of semantic waves across its three textual examples (Figure 12.4).

In contrast, the low-achieving essay (dashed line in Figure 12.4) traces a relatively low semantic flatline. Here knowledge is expressed through a non-technical, non-literary discourse (weaker semantic density) that is firmly grounded in the context of each specific text's relations to

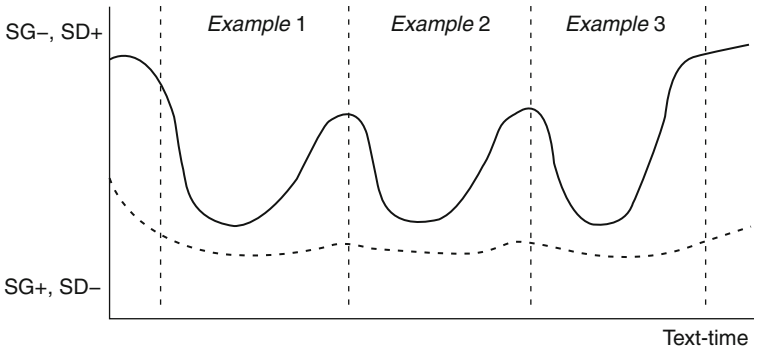

Figure 12.4 Semantic profiles of English essays

everyday life (stronger semantic gravity). For example, discussing the novel *Ender's Game*, the student writes:

> It wasn't hard at all to imagine battle school as a real place because I was familiar with several scientific objects which surrounded us. For example, the 'Desk' sounds very familiar to a lap top computer.

Thus, while the low-achieving essay remains within a prosaic code (SG+, SD−), the high-achieving essay not only includes both a prosaic code and a rhizomatic code (SG−, SD+) but also relates the two codes within a wave-like structure.

This brief summary highlights contrasting semantic profiles that resonate with studies into other disciplines and levels of education that are revealing both the ubiquity and diversity of semantic waves. Szenes, Tilakaratna and Maton (2015), for example, explore how 'critical thinking' is assessed within social work and business university degrees by analysing student work products. Figure 12.5 portrays an example of a high-achieving 'reflective journal' from a business unit. The journal comprises three principal stages. The first stage, ostensibly excavating the student's values ('excavation' in Figure 12.5), is characterised by a rapid series of deep semantic waves as the journal shifts quickly between decontextualised, conceptual ideas of cultural values (such as 'individualism') and straightforward, concrete examples from the student's cultural context embodying those values (such as the cricketer Sir Donald Bradman).

In the second stage, the student relates his/her own behaviour during teamwork with other students to these values ('reflection' in Figure 12.5). Here semantic waves are milder: discussion of behaviour

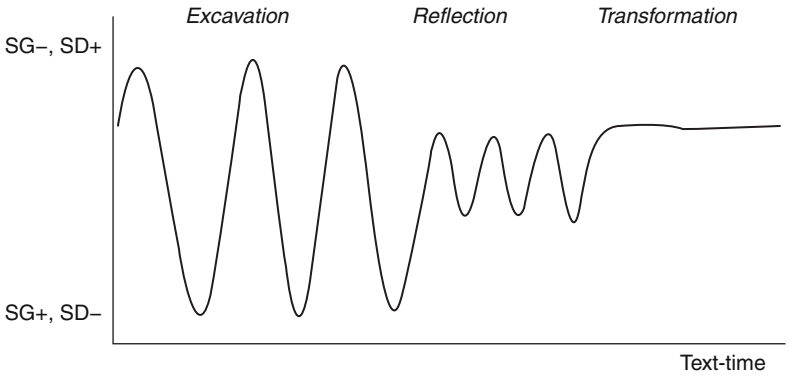

Figure 12.5 Semantic profile of a 'critical reflection' journal in undergraduate business (adapted from Szenes et al., 2015)

is generalised and conceptualised rather than simply recounted; and theoretical ideas are more context dependent and simplified as their meanings are delimited to those concerning the behaviour. In the final stage ('transformation'), the journal not only brings these forms of knowledge into relation but transforms them further as the student provides a list of generalised skills for successful participation in future teamwork situations that are claimed to embody the concept of 'intercultural competence'. Semantic shifts now lessen to reach a midway point in the scale.

Analysis of 'critical reflection' essays from social work highlights differences in their semantic profiles, reflecting specificities of subject matter and differences of assessment, such as requiring a 'critical incident' to be simply and concretely described at the outset (Szenes et al., forthcoming). Nonetheless, they share this overall pattern of semantic waves that weave together different forms of knowledge. This general finding is echoed in studies of curriculum, textbooks, and student assessment across the disciplinary map, including biology (Hao, 2011), design (Shay and Steyn, 2015), engineering (Wolff and Luckett, 2013), jazz (J.L. Martin, 2013), journalism (Kilpert and Shay, 2013), physics (Zhao, 2012; Georgiou, 2015), and teacher education (Shalem and Slonimsky, 2010). Moreover, studies of intellectual practices are suggesting that mastery of semantic waves is also crucial to knowledge-building in research. Maton (2014), comparing the frameworks of Bernstein and Bourdieu, argues the former has a greater semantic range that enables cumulative development through semantic waves that weave the concrete particularities

of empirical phenomena with abstract and highly condensed concepts. In contrast, Hood (2015) reveals the segmentation characterising ethnographic writing in cultural studies, as research both fails to achieve semantic waves that reach beyond the specificities of each context and leaves theory and data relatively separate and unchanged.

Classroom practice

Mastery of semantic waves may underlie achievement in education, but it is unevenly distributed across society. Students from different social backgrounds come to education with dispositions that encompass different semantic ranges. Maton (2014, pp. 204–5) briefly re-analyses Holland's iconic study (1981) to highlight how school pupils from different social classes have different semantic coding orientations. As this and other research (Hasan, 2009) reveals, the ability to move between concrete, simpler meanings and abstract, generalised, and complex meanings is associated more with socialisation practices in cultural middle-class families than those of working-class families. Among the questions such 'semantic variation' raises for education are whether classroom practices help model semantic waving to all students and, if not, how they can do so.

These issues were broached by a major interdisciplinary study of knowledge-building in secondary schooling. The research included analysis of teaching texts, student assessments, and video-recordings of 100 history and biology lessons in Years 8 and 11 in New South Wales, Australia. The study is discussed elsewhere (Martin, 2013; Maton, 2013; Macnaught et al., 2013; Matruglio et al., 2013); here I simply highlight two semantic profiles traced by knowledge expressed in classrooms. The first comprises a segmented series of downshifts from decontextualised and condensed ideas (SG−, SD+) towards more concrete and simpler understandings (SG+, SD−). This profile was typically associated with teachers 'unpacking' meanings from source documents such as textbooks by explaining ideas in less technical language and using everyday examples. After each 'unpacking', rather than moving back into specialised academic discourses by 'repacking' these meanings into terms of greater generality and abstraction and interconnecting them with other ideas, teachers often returned to the text to unpack and exemplify further. In short, this widely found profile reflected a tendency to repeatedly model only shifts down the semantic scale (the right-hand side of C in Figure 12.3).

This was not, however, the only semantic profile. Though not as widespread, the study found classroom practices that additionally

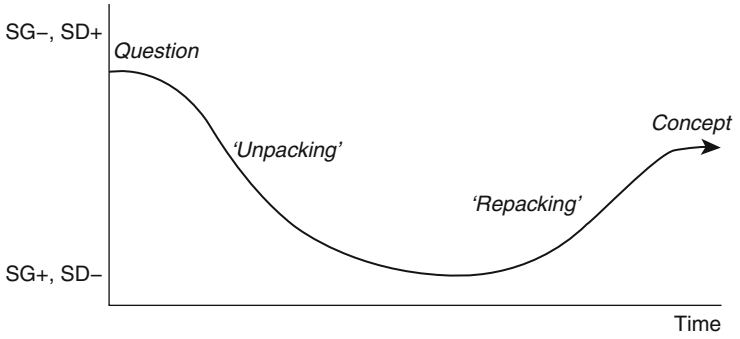

Figure 12.6 A semantic wave in a secondary school History lesson

modelled upshifts to create semantic waves. One example offered in Maton (2013) is from a Year 11 history classroom discussion of a take-home assignment on 'the influence of Greek and Egyptian cultures in the Roman Empire'. The question includes terms from the pedagogic discourse of history characterised by relatively weak semantic gravity and relatively strong semantic density: 'Greek culture', 'Egyptian culture', and 'Roman Empire' embrace a range of meanings concerning, for example, time periods, geographical locations, practices, or beliefs. The question also condenses causal relations: explicating 'influence' requires understanding historical processes. The knowledge evoked by the question thereby sits relatively high up the semantic scale ('question' in Figure 12.6). The teacher signals this position at the outset by acknowledging the difficulty of the question:

> Teacher: This is a little bit hard, 'H. THE INFLUENCE OF GREEK AND EGYPTIAN CULTURES'. What does that mean? What would the influence of Greek and Egyptian cultures mean, okay? No idea, right?

She then moves this knowledge down the semantic scale ('unpacking' in Figure 12.6) by providing a series of examples of what 'influence' would mean in this case:

> Teacher: What it means is, if we started to look at all the things in Pompeii and Herculaneum, what objects may be showing Greek design? Or Egyptian design? Or Greek mythology? Or Egyptian mythology? Or what building techniques, like columns? Are there

> Greek columns? Do, you know, are the themes of their artwork reflecting it?

With the examples of 'objects' that 'may be showing Greek design', 'Egyptian design', 'Greek mythology', and 'Egyptian mythology', the knowledge expressed by the teacher begins to move down the semantic scale by specifying and unpacking meanings from the wide-ranging, abstract terms of the question, a move continued by the more specific and concrete example of 'building techniques' and 'columns', which is in turn exemplified by 'Greek columns'. The teacher also grounds the question in the historical period (through examples of prior events in history) and the current discussion of the question in the context of previous lessons:

> Teacher: So, it's saying . . . remember when we started, we said that Pompeii had originally been settled by Greeks? Okay? And if we look at where Italy is, it's not that far from Egypt at this time, umm, we've, we've had, umm . . . Cleopatra has been killed by the time the volcano erupts, she and Mark Antony are dead and Egypt is part of the Roman empire.

Thus far, the teacher has downshifted the knowledge being expressed. However, rather than returning to the question and repeating this procedure, she moves knowledge back up the semantic scale. The teacher weakens semantic gravity by discussing recurrent events (trade and diplomatic visits) rather than specific events and strengthens semantic density by 'packing up' various activities being conducted between countries as 'trade in ideas', and then into the technical term 'aesthetic trade' ('repacking' to 'concept' in Figure 12.6):

> Teacher: So, there would be massive amounts of trade going on, and umm, you know people visiting their diplomats you know or their, their, ambassadors . . . like their envoys and things like that all going back and forth across the countries. So, ideas. When you get trade in ideas – you wouldn't have heard this word before – we call it 'aesthetic trade'. Have you heard of it? Yeah.
> Student: You told us before.
> Teacher: Ohh! Told you before great, *excellent*! You remember aesthetic trade! 'Trade in ideas'. So, of course, when you've got contact with the country you're gonna get the trade in ideas coming as well.

Reaching the weaker semantic gravity and stronger semantic density embodied by the question required a series of progressively higher waves over a more extended period than included here. (As the arrow in Figure 12.6 highlights, this excerpt forms part of a longer passage of classroom practice). Nonetheless, in this short passage the teacher almost completes a semantic wave, transforming (to put it crudely) 'academic' discourse into more 'everyday' discourse and then back again, thereby weaving together different forms of knowledge to explain a key aspect of the knowledge students are being asked for by the question. In particular, the passage illustrates how the teacher modelled not only downshifting but also upshifting from plain, contextualised meanings towards more condensed, decontextualised meanings.

Space precludes further discussion, but one conjecture arising from this study was that semantic waves not only model the form required to succeed but also, unlike the aforementioned profile of repeated downshifts (where 'unpacking' dominates), help students access the complex semantic structures of academic knowledges. LCT concepts are, however, not restricted to analysis and generating conjectures – they can form the basis for praxis. As part of this study a pedagogic intervention involved training teachers to engage in 'joint construction' with students as a means of teaching them how to move up the semantic wave and master the linguistic resources required by assessment (Macnaught et al., 2013).[3]

Conclusion

This chapter has only touched the surface of how LCT can help explore knowledge, curriculum, and pedagogy. Semantic gravity and semantic density are not the only concepts in Semantics, and Semantics is not the only dimension of LCT. Indeed, these concepts involve not only the epistemological forms of condensation and gravitation discussed in this chapter but also axiological forms (Maton, 2014). Moreover, space allowed mention of only a few illustrative studies enacting the concepts. Nonetheless, it begins to illustrate the capacity of the concepts to underpin research and praxis and how they are revealing the contours of 'powerful' intellectual, curricular, and pedagogic practices.

By building on the capacity of the concepts comprising 'semantic codes' to embrace change, the analytic method of semantic profiling offers a fresh perspective that dynamises thinking about education,

including debate over 'powerful knowledge'. The chapter focused on the conjecture emerging from empirical research that semantic waves are a key characteristic of intellectual and educational practices. Rather than valorising or criticising particular types of knowledge, this highlights that what may be 'powerful' is not one form of knowledge but rather how different forms are related and changed. In short, power resides in *semantic waves* that *weave* together and transform knowledges.

However, as I have also emphasised and illustrated, this is not to suggest practices are identical. Studies are revealing the diverse forms of semantic waves generated by their complex features, including:

- *semantic range* – emerging findings suggest that the optimum range not only increases through the curriculum, as previously expressed knowledge is built upon, but also may have upper limits at any particular point, such that one can venture too high (Georgiou, 2015);
- *entry* and *exit points* – while knowledge practices in some subjects begin and end high, creating U-shaped waves, more practically oriented subjects often begin and end with concrete examples and simpler meanings, creating bell-shaped waves;
- relative emphasis on *upshifts*, where theorising is foregrounded, or *downshifts*, where applications in practice are central (Shay and Steyn, 2015);
- *semantic flow* or degree of connectedness between points – discontinuous leaps up and down the semantic scale may or may not be permissible; and
- *semantic threshold* or the degree of accuracy appears from ongoing research to vary between subject areas and through the educational career.

While not the only variables, they highlight the differences to be discovered amid overall similarity. The concepts thereby provide the means to analyse both generic and specific aspects of educational practices.

I should emphasise that, though research suggesting the 'semantic waves' conjecture has served to illustrate the usefulness of Semantics, the value of the framework does not rest on this hypothesis: concepts and conjecture are not the same (see Maton, 2014, pp. 15–17). If the notion that semantic waves are crucial for achievement proves to be erroneous, the concept of 'semantic waves' may remain useful; indeed, the concept may be the basis for disproving the conjecture

and developing an improved hypothesis and basis for praxis. The concepts are also not limited to this focus. As the chapter has illustrated, Semantics can be enacted in studies of practices in intellectual, curricular, and pedagogic fields, across the disciplinary and institutional maps of education. Moreover, they also enable the analysis of the dispositions that students bring to those contexts by virtue of their past experiences. The concepts thereby not only build upon Bernstein's framework but also embody the relational principles of code theory. Like his 'pedagogic codes', the concepts of semantic codes enable the dominant organising principles of educational contexts to be related to those characterising actors' dispositions, revealing who is predisposed to succeed or fail and suggesting ways forward for social inclusion and justice. This is an area requiring further research. In recent years code theory and social realism have largely sidelined analysis of what knowers bring to education in favour of the forms of knowledge they encounter there. The concept of semantic codes offers a means of extending the generating power of Bernstein's framework to address this issue, both through new research and, as suggested above, re-analysis of existing studies.

Turning the tools of Semantics upon themselves helps explain the burgeoning productivity touched upon in this chapter. The concepts embrace an extensive semantic range, from abstract, generalising, highly condensed, and complex meanings as part of the wider sociological framework of code theory, to concrete, specific, and simpler meanings in practical application and praxis. The concepts thereby enable analyses of an expanding range of apparently different phenomena to be brought together, highlighting their underlying uniformities and differences. Thus, while always provisional in its findings, LCT aims not only to analyse but also to embody powerful knowledge.

Notes

1. Specialisation is the most widely used dimension and, inter alia, overcomes a problem of much social realism by conceptualising the organising principles of the arts and humanities (Maton, 2014).
2. See Maton (2013, 2014) for more extensive introduction and exemplification of these concepts.
3. On how LCT concepts can inform praxis, see Carvalho et al. (2015).

13

Practical Knowledge of Teaching: What Counts?

Yael Shalem and Lynne Slonimsky

> I am not arguing for not having pedagogical training – that is the last thing I want. But I claim that the facts mentioned prove that scholarship per se may itself be the most effective tool for training effective and good teachers.
>
> (Dewey, 1964, p. 327)

In the domain of professional education, the relationship between theory and practice and the nature of and role of disciplinary knowledge in ordering the acquirer's understanding of the practice have occupied research for many decades. The return to this question now has a specific context. Broadly speaking, this context is characterised by a proliferation of policy evaluation research at the expense of disciplinary-based research, an attack on professional knowledge, and a turn away from a discipline-based curriculum to an interdisciplinary practice-based one. Specific to teacher education, there are increasing calls for pre-service curricula to increase the amount of time spent in schools and to focus students' learning on authentic assessment tasks and personal accounts from the outset of the degree. A common rationale behind these calls is the idea that it is by *actually* being in the school – in the presence of 'old timers' – planning, teaching, and revising one's lessons, by iteratively being involved in aspects of practice – that student teachers acquire practical knowledge or the know-how of professional knowledge and that this is key for learning professional expertise. In other words there is an increasing tendency to downplay the systematised conceptual reservoir of teaching and to emphasise tools for practice. In South Africa, this view is expressed in claims such as 'experience is the most important bridge to practice' (Henning and Gravett, 2011,

p. S21) or 'the enterprise of teacher education must venture further and further from the university and engage ever more closely with school' (Darling-Hammond in Osman and Casella, 2007, p. 35) or that in order to bridge the gap between theory and practice, teacher educators need to develop curriculum artefacts to personalise theoretical work (Petersen and Henning, 2010). It is also expressed in policy work which advocates informal avenues for teacher development (such as professional learning communities) and the establishment of 'Teaching Schools and Professional Practice Schools' in order to 'ensure meaningful Work Integrated Learning' (Departments of Basic Education and Higher Education and Training, 2011, p. 15).

Assumed here is the belief that by having to face different modes of school organisations and cope with novel situations, in particular those that are marked by 'uncertainty and indeterminacy' (Schön, 2001), student teachers get access to the 'real stuff' to 'the tacit form of personal knowledge' (Eraut, 2000, p. 114). On this view, learning to be a teacher is about cultivation of practical wisdom by means of action research, personal observations, field work, and continuous experience in the site of practice. With these kinds of tools, it is argued, educational theory can be demystified and amalgamated with tacit theories held by experts in the practice (Henning and Gravett, 2011, p. S24).

Our concern is that more and more personal reflection in and on practice and not the acquisition of theoretical knowledge, per se, is seen to be central to the acquisition of professional knowledge. This privileging of personal experience is very often justified by postmodernist anti-intellectualism in, for example, the position that all theories are underpinned by tacit ideological assumptions and therefore there is no privileged position outside of practice (Carr, 2006) and/or by an overemphasis on tacit knowledge in claims that much of professional knowledge consists of modes of operations that cannot be made explicit by discursive means (Dreyfus, in Selinger et al., 2007). This overemphasis on tacit knowledge is also contributing to the growing anti-intellectualism in the approach to professional education. In different but equivalent ways the postmodernist project and the embodiment thesis call into question the educational project of formal education. In Winch's words (2010, p. 123), the educational project of 'instruction, explanation, training and exemplification' is made secondary or, in a worst-case scenario, redundant.

A systematic interrogation of tacit knowledge is, therefore, justified. Our primary aim in this chapter is to develop a conceptual clarification of the notion of tacit knowledge, what it is and what precisely the tacit

knowledge argument buys us. The flip side of this interrogation is an attempt to address the question of what it is that enables the acquirer of a professional practice to see distinctions and relations in and about the practice, and why this condition of possibility rather than the amorphous idea of tacit knowledge is key to the development of professional expertise.

The chapter is divided into four parts. We begin with a brief discussion of the debate between Paul Hirst and Wilfred Carr (2005) on the role of disciplinary knowledge in ordering the practice of teaching, conceptually. In this discussion we foreground the growth of anti-intellectualism in the field of professional education, evident in Carr's postmodernist attack on the idea that educational theory has a privileged position in relation to practice. In the second section, 'The embodiment thesis', we show that in the turn to ideas such as 'intuitive cognition' (Eraut, 2000), 'reflection in action' (Schön, 2001), and 'embodiment' (Dreyfus in Selinger et al., 2007), a different form of anti-intellectualism is developing, promoted by claims that undervalue or discount the role of deductive reasoning in making professional judgement. In this thesis, tacit knowledge is propagated as a strong obstacle to formal instruction. Tacit refers to embodied rules of practice that experienced practitioners use to recognise connections between different elements of their practice, about which they 'cannot give a complete or even a reasonably accurate description' (Schön, 2001, p. 7).

In the third section, 'How is tacit knowledge classified?', we turn to Collins' work on tacit knowledge (2010; 2011). Collins' argument is central to the view of tacit knowledge we develop in this chapter and to the overall argument of the chapter. Collins distinguishes between 'what is not, *but* could be made explicit' and 'what is not and cannot be made explicit' (our paraphrase). This distinction narrows down the realm of tacit knowledge, questions the idea that tacit knowledge cannot be made explicit, and also helps to shed light on the role of collective representations (rather than individual experience and personal embodiment) in the acquisition of professional knowledge. In the last section of the chapter, we extend Collins' argument and, by looking at social realist positions on professional knowledge (Abbott, 1988; Winch, 2010; 2013; and others), we show that the crux of professional knowledge lies in specialised 'practice language' (Collins, 2011) which constitutes criteria for seeing distinctions and relations in the particulars of practice. Collins' and Winch's analyses of tacit knowledge show that this form of discrimination, evaluation, and therefore judgement

cannot be obtained from emulating the activities of other professionals, in situ.

Intellectualism and anti-intellectualism in teacher education[1]

In his debate with Carr (Hirst and Carr, 2005), Hirst foregrounds the difference and relation between theoretical reasoning[2] and practical wisdom.[3] Theoretical reasoning, he argues, is primarily concerned with establishing the truth of theoretical knowledge (such as relations between ideas, inferences from ideas, mastery of concepts within a subject, and procedures for testing knowledge claims) and concept clarification (systemisation of ideas). Practical wisdom, on the other hand, is concerned with the pursuit of practical action and relies on the ability of human beings for discernment in particular circumstances or on contextual wisdom. Hirst argues that with the help of 'structures of justified propositional beliefs' (Hirst and Carr 2005, p. 616), teachers are able to find rational justification for their practices and discard presuppositions that have been proved to be false. In Hirst's view, practical wisdom depends on theoretical reason, 'if it is to begin to be reflectively adequate to all the complexities of educational situations and their possibilities' (Hirst and Carr 2005, p. 618). Hirst insists that a study of educational theory is a distinctive enterprise external to what teachers do in their day-to-day practice. Getting to grips with the internal coherence of concepts (and understanding of their exact meaning) is a prerequisite for developing rational judgement for practice. The disciplines of education, philosophy in particular, are paramount for prospective teachers because they provide them with conceptual clarity on the nature of knowledge, with ways of systematising concepts and with methods of justification that can be used to examine deep-seated beliefs, ideas from other disciplines *and* instances of practice.

In his debate with Hirst, Carr argues against the idea that theoretical knowledge can provide standards for rationality and truth: along postmodernist lines, he claims that the knowledge developed by educational theory cannot escape 'particularity and contingency' (2006, p. 147) and thus cannot be said to attain a higher form of rationality that 'competent members of the community of educational practitioners' cannot access themselves (p. 150). Educational theory is itself a social practice that is imbued with cultural norms and criteria. It is nothing more

than a personal theory that practitioners develop through a process of 'self-reflective inquiry' (p. 141). In a subsequent article, Carr goes even further and calls for the abandonment of the pursuit of generalisable educational theory:

> Educational theory is nothing other than the name we give to the various futile attempts that have been made over the last hundred years to stand outside our educational practices in order to explain and justify them. And what I am going to propose on the basis of this argument is that the time has now come to admit that we cannot occupy a position outside practice and that *we should now bring the whole educational theory enterprise to a dignified end*.
>
> (2006, p. 137, our emphasis)

In Carr's position, the epistemic activity of formulating 'propositions on which we can agree in our judgements of truth' (Hirst, in Hirst and Carr 2005, p. 617) is replaced with reflecting on what is unacknowledged by educational theorists – the particular, contingent, and the culturally specific, the unacknowledged bias.

The embodiment thesis

The anti-intellectual sentiments entailed in Carr's postmodernist position are growing in other quarters of the field of professional education. Anti-intellectualism is growing through the work of practice theorists (such as Lave and Wenger, 1991 and followers) who turn to the embodiment thesis to explain why professional knowledge relies primarily on one's bodily access to *tacit* knowledge. The main precept of the embodiment thesis is that a large element of professional knowledge is ineffable, acquired in a 'mode of experience', and when using this knowledge, every individual adds his/her signature to it (Winch, 2010, p. 121).[4] Practice-based theorists promote the idea that 'first-hand encounter with the actors in their own settings, in the midst of doing whatever it is that they do every day, with whatever is required to do it' (Miettinen et al., 2009, p. 1315) is the best way to capture 'the seen-but-unnoticed' (p. 1316). Tacit knowledge is the intuitive aspects of professional knowledge, which cannot be codified. These aspects can only be accumulated through practical experience, by being directly involved with objects, products, and services in the workplace (Nonaka and Takeuchi in Guile, 2010, p. 34; see also Sellman, 2012). By spending

enough time with an old timer, criteria of good practice get transmitted, and tacitly acquired, through the process of 'indwelling' (Polanyi, 1966 in Guile 2010, p. 49).

The practice turn view returns to two foundational claims about tacit knowledge: Ryle's (1949) claim that no amount of accumulative knowledge ('knowledge that') will prepare one for practice ('knowledge how') and Polanyi's (1966) claim that 'we can know much more than we can tell'. The following claim by Dreyfus (in Selinger et al., 2007, p. 737) points to the heart of the embodiment thesis:

> You may have mastered the way surgeons talk to each other but you don't understand surgery unless you can tell thousands of different cuts from each other and judge which is appropriate. In the domain of surgery no matter how well we can pass the word along we are just dumb.

This take on professional knowledge is that *embodied realisation precedes recognition* – practicing a thousand possible permutations of surgical cuts and doing experiments with an expert is necessary for gaining discernment of the idea (of surgery), for accessing criteria of practice. For Dreyfus then, explicit knowledge is made to depend on tacit knowledge.

What emerges from these points is that professional knowledge has an ineffable element to it, an interpretive set of criteria that cannot be formalised (and therefore cannot be generalised) and cannot be transmitted but can be experienced in working with others who are more experienced. Somehow, day-to-day inductions are transformed over time into professional knowledge.

The postmodernist attack on knowledge and the embodiment thesis are disconcerting developments for the transmission and acquisition of professional knowledge. First, the former discounts the possibility of decontextualised knowledge and the latter discounts the framing role of deductive reasoning. Second, by reducing theory to another social practice, by insisting that embodiment and personal experience are necessary for the acquisition of professional knowledge, both views overstate the case for tacit knowledge. Third, without a theory of transmission (which the embodiment theory precludes), it is not clear what criteria one should follow in order to evaluate the practical knowledge of professionals. In view of these issues, the following questions require an answer: How strong is this tacit aspect of professional knowledge? Is all of it occult, can some of it be explicated? Can it be evaluated?

How is tacit knowledge classified?

In several publications, Collins (2010 and 2011) addresses the challenge of explaining tacit knowledge and its role in the acquisition of 'practical understanding' (2011) of professional knowledge. His fundamental aim is to take the mystery out of the idea of tacit knowledge (2010, p. 7). Collins argues that many explanations of tacit knowledge fail to interrogate what can and cannot be transmitted discursively; they fail to exclude those instances in which Polanyi's claim that 'we can know more than we can tell' does *not* fit (2010, p. 4 and 2011, p. 272). According to him the idea of the tacit is overstated and muddled. His analysis shows that many of the instances considered by proponents of the embodiment thesis to be tacit and ineffable are weak forms of tacit knowledge; they do not touch on 'deep principles that have to do with either the nature and the location of knowledge or the way humans are made' (2010, p. 86) and they could be transmitted discursively (2010, pp. 91–7 and 2011, p. 284). Since these instances arise in person-to-person interactions (in formal *or* informal situations), he categorises them as 'relational tacit knowledge'.

In such instances not all the knowledge needed for acquisition is spoken about. These include situations in which neither the bearer of the practice (the transmitter) nor the novice thinks that the information requires communication because the expert is so familiar with what he/she knows that he/she does not notice it anymore ('unrecognised knowledge'); information is withheld because the bearer of the practice does not know that the novice does not know it, and the novice does not know that he/she does not know it and yet it is salient for what the expert is doing ('mismatched saliences'); information is withheld because the bearer of the practice does not want to disclose it ('professional secrets'). In other words, the reasons for why knowledge remains unspoken are sociological or psychological and not epistemic. As he puts it 'principles to do with the nature of knowledge are not at stake' in any of these instances (2010, p. 98). The appropriate description of these situations is therefore different: 'we know more than we tell' and not 'we know more than we can tell' (our paraphrasing). Given the necessary will and/or contingences, more of the unspoken knowledge could be made explicit by '. . . telling secrets, by using longer strings,[5] by finding out more about what is in other people's minds, and by doing more science so that what is not known to anyone becomes known' (2010, p. 160).

As such, instances of relational tacit knowledge do not form a real threat to discursive transmission of professional knowledge and do not justify the claim that embodiment is central to the acquisition of professional knowledge.

The second type of tacit knowledge is 'somatic tacit knowledge' and is a stronger form than the relational type. It refers primarily to the practical understanding used in instances such as bicycle-balancing or typing. It points to constraints and affordances of the ways our bodies and brains work. In education we would include automatised reinforcement of responses to stimuli. This form of 'know-how' is, indeed, attained through embodied experience. Nevertheless, practical understanding of that kind is not central to the understanding of professional practice (Collins, 2010, p. 117)[6] and does not prove the claim that the practical *understanding* of professional knowledge is tacit and can only be attained by being immersed in the site of practice.

So far we have seen that the tacit knowledge argument is insufficiently differentiated and buys us very little. What then is the irreducible tacit and where is it found? Collins argues that the strongest form of tacit knowledge lies in what makes human beings distinctive. This, he argues, is 'socialness', the ability of human beings 'to feast on the cultural blood of the collectivity' (2010, p. 131) and thereby to successfully instantiate actions and activities appropriate to sociocultural and socio-historical contexts. What is actually tacit is the 'mechanism' (2010) by which individuals draw on collective knowledge and make fine distinctions, evaluate and bring ideas and context into a relation. Collins proposes that the epistemological aspect of the tacit knowledge problem is to be found in the human ability to make meaning, to produce and act in accordance with 'socially located knowledge'. Human beings can, in principle, interpret intelligently, that is, in concert '*with what other humans are doing*' because they participate in the larger organism of society (2010, p. 165, emphasis in the original). What enables this socialness is language – our ability to symbolise experience and knowledge across time and space – which not only manifests this tacit ability but also affords it. We participate in the language of others and make meanings of our surrounding by using their symbols.

Collins does not explicate the meaning of socialness sufficiently. The nearest to a sociologically familiar concept is a footnote on page 131, where Collins refers to Durkheim's notion of 'collective consciousness' or the idea that by definition knowledge is found at the collective, the individual is the bearer of collective representations. In this, Collins

brings us back to basics by arguing that the tacit is not a constraint of professional knowledge. If human beings did not have the ability to make knowledge explicit, the idea of tacit would not exist. The *mechanism* of doing this is tacit (in the strongest sense of the word) but the *ability* to make knowledge explicit is what defines us as humans. The challenge posited by Collins is to unpack the ways symbolisation through language facilitates the process of making the practical understanding of professional knowledge explicit.

In a more recent paper (2011) Collins attempts to explain the constitutive power of language in ordering and binding a specialist's understanding of scientific practices and to defend the claim that discursive interaction in the language of the practice rather than joint activity in close physical proximity is a necessary condition for its acquisition. His defence draws on his analysis of linguistic fluency that can be found between experts within a domain of expertise across institutional settings, division of labour, geographical space, and time. The collective contributions made by different specialists in a field form a collective representation of the practice as a whole or what he calls 'practice language' which articulates, ordinates, and coordinates their situated practices across time and space. It is the practice language which enables continuity and development and deepening of the collective understanding of the practice. Put differently, if situations in professional life were predominantly reflected in or reduced to local situated personal knowledge, and if their understanding was a matter of inductive accumulation of bodily experiences, then communication across a diverse range of expert practitioners and spatio-temporal social contexts, the intergenerational transmission of specialised knowledge as well as professional judgement, would be impossible. The professional domain would be reduced to a collection of silos.

Collins (2011) is clear that the 'practice language' is anchored in physical reality – if the physical activities of the diverse range of professional specialists and the respective activities constitutive of the practice ceased to exist, then the practice language itself would also cease to exist. However, practice language must entail a sufficient level of abstraction and generality to both represent and transcend developing grounded practices, if it is to enable informed judgement and the development of knowledge in practice. The crux of practice language lies in its regulatory role – it classifies what can be said in and about the practice, 'what does and does not exist and what can and cannot be done' (2011, p. 282) and what would count as outside of the collective enterprise of the profession. The power of practice language lies in its ability to classify

and conceptually order situations, foreground and structure their salient features, and place them in order of significance. The ground for practical understanding, the 'know-how' of professional knowledge lies, then, in the collective ordering of the individual action. The new default position, Collins argues, should be 'that a practice can never be learned from someone else in the absence of shared language' (2011, p. 279).

If these ideas of abstraction, generality, and shared language are accepted then it must be agreed too that practice language is not a set of arbitrary conventions or discourses that can be manipulated to distribute different truths as the postmodernist Carr would have it.

Where to from here?

Collins invites the development of 'a full theory of how language contains practical understanding' (2011, p. 282). We agree with this and below we note others who make a similar call. Nevertheless, we argue that Collins' notion of a practice language being a regulatory and constitutive feature of the practice could advance the debate much further if it is shown that the activities of specialists in a domain of practice are ordered by the conceptual structure of the subject matter at hand. In the absence of disciplinarity, the inferential power of practice language, its regulatory role, is not sufficiently explained.

Winch's idea of 'inferential comprehension' (2013, p. 130) is germane here. To know and communicate that something is the case (in Collins' terms 'what does and does not exist and what can and cannot be done', see earlier) is to understand, work with, and develop inferential relationship between propositions. In his recent work on expertise (2010, p. 104), Winch draws a distinction between 'contingent' and 'discrete propositional knowledge' that are gained through experience and 'organised propositional knowledge' that is acquired systematically. With this idea, he explains that true understanding of a proposition commits one to also know what can and cannot be inferred from that proposition, albeit in different degrees of breadth and depth. Winch develops the idea of inferential comprehension to defend the view that the core understanding of professional knowledge is about grasping of its conceptual structure (knowledge that) and knowing how to select methods of investigation which are appropriate for the subject matter at hand (knowledge how). At minimum, professionals are acquainted with 'subject-dependent warrants', at best they also master 'the appropriate procedures for knowledge generation within the relevant subject' (2010, p. 110). Winch's 'knowledge how' is a very different form of

practical knowledge, one that is formal and is grounded in propositional knowledge and not in everyday experience, ideological underpinnings, or tacit knowledge. Winch acknowledges Carr's point that there is a proliferation of social science explanations and the ensuing contestation between theoretical perspectives. He also concedes the embodiment thesis' claim that reflection on action in specific situations cannot be seen to be directly dependent on thinking about the truth of ideas about action, at least not in any simple way. Nevertheless, he argues that the critics would still have to explain how 'propositional knowledge might have a bearing on practice' precisely because it has a systematic structure (Winch, 2010, p. 102).

Winch's reformulation of practical knowledge as an integral aspect of propositional knowledge is consistent with recent calls within the educational field to identify and develop the knowledge-base of teaching. There are arguments that this can be done inductively (Hiebert et al., 2002) but Muller (2012) believes that it should be done deductively. He calls it 'syntactic tracing' or constructing a chain of inferences, 'as firm and accountable' as possible 'between the "invariants" of the conceptual pile and the variabilities of the empirical instance' (p. 12). Lawn and Furlong (2009) remind us of the crucial role of disciplinary-based work in 'breaking down problems into its own logics and mediating between public information and problems' and between these and public action (pp. 549–50). Klette and Carlsten (2012) call researchers to move away from a restrictive view of professional knowledge that centres it on embodied practical knowledge and instead advance the important work of knowledge codification. Encoded knowledge, they argue, is essential for framing decisions in practical setting; it foregrounds knowledge sources, instruments, and theory-mediated objects ('object-centred relationship') rather than informal day-to-day individual teachers = strategies and choices ('person-centred relationship') (p. 79). There is a key idea here about ordering principles, which lies at the very heart of these calls: concepts regulate existing forms of understanding and transform them into new possible forms, if they represent existing ideas *and* transcend their meaning in time and space. If a concept is isomorphic with ideas that are deemed insufficiently developed, it would merely describe what is already present and would lose its regulatory function (Shalem and Slonimsky, 2010). This is why the regulatory role of practice language depends on concept building.

In developing this idea Shalem (in press) draws on Abbott's knowledge classification to explain the binding power of specialised professional knowledge. Professions, Abbott argues (1988), enjoy two reservoirs of knowledge classifications – academic and diagnostic. Both are formal

bodies of knowledge but each is organised differently and constrains professional judgement differently. Academic knowledge classifications pull together propositions, formally, along consistent rational dimensions, thus producing relations and boundaries between ideas. They are stronger when they refer to subject matter-specific concepts that can only be explained by a singular discipline.[7] Concepts in educational theory such as schemata, working memory, epistemological rather than formal access, the pedagogic device, criteria of education, and so on may provide this kind of classification. Having these kinds of conceptual classifications (Abbott (1988, p. 102) refers to them as 'positive formalism') secures the jurisdiction of judgement within the profession. The second reservoir of professional knowledge is 'diagnostic classifications' (1988). These classifications form a far more direct resource for the working knowledge of professionals, yet do not lend themselves to a 'standard sequence of questions' (p. 42). They are not tips, routine skills, or direct commands. Criterion reference assessment and taxonomies of learning attempt to provide such classifications to teachers. Abbott explains the way in which professionals draw on the two reservoirs of knowledge. First, they collect information about a particular case (be it a specific disease, legal case, a building design in architecture, or learners' errors in an exam) and assemble it into a complex picture, *according to certain epistemic rules and criteria* specific to the subject matter. Second, the practitioner takes the complex picture and refers it to classifications that are already known to the profession (for example, a concept in the field of law, a formal theory in architecture, or a set of conceptions in a particular area of science or mathematics), and deduces the type of the case in particular. In order for a practitioner to align a specific case with 'the dictionary of professionally legitimated problems' (that is, its diagnostic classifications, p. 41), the practitioner needs to know 'what kinds of evidence are relevant and irrelevant, valid and invalid, as well as rules specifying the admissible level of ambiguity' (p. 42).

Abbott's work on classifications and Winch's reformulation of practical knowledge are important developments which locate practical knowledge in a formal process and not in everyday experience. They point to the vertical relation between propositions, whereby the more general concept frames the relations between the subordinate concepts and in that way binds discrimination, evaluation, and therefore professional judgement of the particular. This kind of work (see also Wheelahan, 2010; Young and Muller, 2010a; and Rata, 2012b) can be understood by reference to Vygotsky's 'scientific concepts' (1987) – conceptual classifications of systematic propositional knowledge pull existing concepts into new relations of abstraction and generality and in

doing so impose new orders of meaning on existing concepts. In different ways, all of the above conceptual work comes to a similar conclusion that the process of building a case from different information relies primarily on having access to a reservoir of deductive propositions and on disciplinary-based knowledge of procedure – securing and validating evidence about the particular. Only in this way, we believe, can the relation between theoretical and practical knowledge be reunited.

Conclusion

This chapter raises a critique of the anti-intellectualist stance promoted by postmodernists, by practice theorists, and specifically by advocates of the embodiment thesis. Our analysis shows that each contributed to the current impoverished view of the role of educational theory in socialisation into practice. Other than Carr's explicit denouncement of educational theory, the more common view accepts that educational theory is important, *but* by arguing that student teachers cannot acquire the tacit logic of the practice without being immersed in the site of practice, doing what experienced teachers are doing, and by organising the curriculum around aspects of practice, the role of disciplinary knowledge has indeed been short-circuited (Lawn and Furlong, 2009) and the relation between theoretical and practical knowledge has been severed (Guile, 2010).

We do not deny that the ability to execute practice requires physical and iterative practice. Of course, one needs to experience teaching to learn to teach, but practical knowledge is primarily about learning to analyse, discriminate, and relate. Doing teaching or reflecting on it in practice will not help student teachers find the nuance of practice and its significance or to learn to recognise important situations. Furthermore it is overly romantic to think that mentor teachers, in situ, do not withhold information or that they offer a systematic account of what they do and why, or able to know what the novice needs to know.

If our argument is correct, then our conclusion is that the common view of socialisation into professional practice is wrong. The view that *we know much more than we can represent by telling*, and therefore practical understanding of professional knowledge must be acquired in experience, is false. It is time that the overinflated view of the role of tacit knowledge is challenged and we hope that we began to address it.

The central claim that we want readers to take from this chapter is that the heart of practical understanding is in discrimination and evaluation, which must be premised on disciplinary knowledge and

cannot be obtained from emulating the activities of other practitioners. Practical knowledge develops, primarily, from learning to order ideas – to distinguish and relate between ideas, know what procedures to take to validate them, and how to recognise what interpretation is most appropriate for the instance at hand. Acquisition of professional knowledge lies in access to criteria about what is permissible, right or wrong, true or false, appropriate or inappropriate, and what is better and why, in short, what counts in the practice.

Is this 'knowledge how' tacit? Is this what Collins means by 'socialness'? Winch (2010), it seems to us, has got it right. For him any type of knowledge (propositional, practical knowledge, and knowledge by acquaintance) has elements that are tacit, and in certain circumstances it would be more difficult to recover those. But, he argues, this argument buys us very little. And so he concludes:

> Although being tacit is an important property of all three kinds of knowledge, it is neither mysterious nor does it make all practical knowledge, let alone expert practical knowledge, ineffable, nor is its acquisition beyond the reach of formal or semiformal educational process.
>
> (2010, pp. 118–9)

At the end of the day, the strongest scaffold of the tacit is 'epistemic ascent' (Winch, 2013). What Hirst and Winch (and Vygotsky) elucidate is that the ability to order, which is at the heart of professional expertise, comes primarily from systematic work with an organised body of knowledge at different levels of abstractions, at different degrees of complexity, in and outside of specific contexts.

If one had to ask what the implications of our argument are for initial teacher education, we would direct them back to John Dewey's exploration of the relation between theory and practice in learning how to teach:

> Nothing I have said heretofore is to be understood as ruling out practice teaching which is designed to give an individual mastery of the actual technique of teaching and management, provided school conditions permit it in reality and not merely in external form – *provided, that is*, the student has gone through a training in educational theory and history, in subjectmatter, in observation, and in practice work of the laboratory type,[8] before entering upon the latter.
>
> (Dewey, 1964, p. 336 our emphasis)

Notes

1. A version for this section was first written in Shalem and Rusznyak (2013).
2. Different terms are used by different theorists to refer to theoretical knowledge and in our discussion we try to keep to the original use. Hirst and Carr (2005) refer to 'theoretical knowledge', Winch (2010) refers to 'propositional knowledge' and Collins (2010) refers to 'scientific knowledge'.
3. Different terms are used by different theorists to refer to practical knowledge and in our discussion we try to keep to the original use. Hirst and Carr (2005) refer to 'practical wisdom', Winch (2010) refers to 'practical knowledge' and Collins (2011) refers to 'practical understanding'.
4. See Winch's analysis of Oakeshott's treatment of practical knowledge.
5. In this he refers to computer intelligence that, theoretically, can be used to make explicit every procedure of scientific experiment.
6. Over time, the human mind could develop 'symbolic resources with convenient affordances' (2010, p. 154), he says, and so this is not the 'irreducible tacit'.
7. Two interesting examples given by Abbott are 'particle interactions' or 'underwriting' that can only be explained by a singular discipline (physics and actuarial theory, respectively).
8. Dewey distinguishes between 'apprentice type practice work' and 'laboratory type practice work'. In the former, 'the aim is immediately and ultimately practical' oriented to equipping the teacher with skills, instructional techniques, classroom management etc. In the laboratory type 'the *immediate* aim, the way of getting at the ultimate aim, is to supply the intellectual method and material of good workmanship, instead of making on the spot, as it were, an efficient workman' (Dewey, 1964, p. 315, original emphasis).

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