

# Knowledge and Knowers

Towards a realist sociology of education

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# 1 Seeing knowledge and knowers

## Social realism and Legitimation Code Theory

*Seeing what is hidden by a blind spot requires a new gaze, a different insight.*

### The knowledge paradox

Knowledge is everything and nothing. This paradox marks the heart of debate over social change. For over fifty years, successive accounts have proclaimed the birth of a new era in which knowledge is paramount to a new kind of society. The names of eras are legion: ‘late capitalism’, ‘postmodernity’, ‘the information age’, among many others. The roll call of new societies is voluminous: ‘post-industrial society’ (Touraine 1971; Bell 1973), ‘information society’ (Masuda 1981), ‘knowledge society’ (Drucker 1969; Stehr 1994), ‘network society’ (Castells 2000), and so on. These countless proclamations of profound change differ in their choice of labels and the specific changes they emphasize. However, all foreground knowledge as reshaping every aspect of social life.

‘Knowledge economies’ based on the creation, circulation and consumption of information rather than material goods are said to require workers to engage in ‘lifelong learning’ to keep pace with the resulting fluidity of labour markets. Politics is characterized as concerned with information management and public relations rather than parliamentary procedure and policy enactment. Exponential growth in the volume, complexity and sources of knowledge is proclaimed as undermining traditional notions of authority and expertise. In particular, the rise of new information and communication technologies are heralded as democratizing the creation of knowledge and allowing anyone with Internet access to have ‘all the world’s knowledge at their fingertips’ (Friedman 2005: 178). At the same time, these potentially all-knowing citizens are themselves said to be subject to unparalleled levels of information-gathering in a ‘superpanopticon’ (Poster 1990) managed by a growing army of professionals whose disciplining gaze reaches into every minutiae of everyday life.

Such claims are commonly found and repeatedly made across the social sciences. Their shared import is to proclaim knowledge as everything. Never has knowledge been viewed as so crucial to the nature of society. Yet, *understanding knowledge* is not viewed as crucial to *understanding society*. For what unites accounts of social

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change is not only their emphasis on the centrality of knowledge but also their lack of a theory of knowledge. Knowledge is described as a defining feature of modern societies, but what that knowledge is, its forms and its effects, are not part of the analysis. Instead, knowledge is treated as having no inner structures with properties, powers and tendencies of their own, as if all forms of knowledge are identical, homogeneous and neutral.

There resides a further irony here. Writing of how social change is reshaping education, Bernstein argued that:

there is a new concept of knowledge and of its relation to those who create it and use it. ... Knowledge should flow like money, to wherever it can create advantage and profit. Indeed knowledge is not like money, it *is* money.

(Bernstein 2000: 86; original emphasis)

This view of knowledge is held by many sociological accounts to characterize contemporary advanced societies. However, in a circular manner, this conception is also *adopted* by those accounts: they treat knowledge as interchangeable tokens, like money. The central concern of research has thus become exploring the extent, intensity and comparative value of flows of knowledge, rather than its forms and their effects. For example, in Manuel Castells' seminal and otherwise brilliant three-volume work on *The Information Age*, 'a definition of knowledge and information' is relegated to a footnote in which Castells declares:

I have no compelling reason to improve on Daniel Bell's (1976: 175) own definition of *knowledge*: 'Knowledge: a set of organized statements of facts or ideas, presenting a reasoned judgement or an experimental result, which is transmitted to others through some communication medium in some systematic form. Thus I distinguish knowledge from news and entertainment'. As for *information* ... I would rejoin the operational definition of information proposed by Porat in his classic work (1977: 2): 'Information is data that have been organized and communicated'.

(Castells 2000: 17, n25; original emphases)

This way of defining knowledge represents what Popper (2003a: 29) terms 'methodological essentialism': it attempts to establish universal definitions or demarcation criteria between 'knowledge' and 'not-knowledge' (such as 'news and entertainment'). Such asociological and ahistorical essentialism offers little insight into the knowledge held to be central to society. It invariably leads to broad descriptions of generic attributes that obscure differences *within* 'knowledge'. As Stehr argues, 'our knowledge about knowledge remains unsophisticated ... knowledge is treated as a black box' (1994: x). Knowledge is thus one of the most discussed *and* one of the least discussed issues in academic debate. Knowledge is everything to society but nothing to social science.

This book contributes towards resolving the knowledge paradox by introducing a conceptual framework, Legitimation Code Theory (LCT), that enables

knowledge practices to be seen, their organizing principles to be conceptualized, and their effects to be explored. Since LCT first emerged in the late 1990s, it has evolved into a sophisticated toolkit. Research using LCT is growing rapidly. Having begun with a focus on knowledge practices in education, studies are embracing a widening range of fields and practices (Chapter 10). LCT is far more than a sociology of knowledge or education – it is a sociology of possibility. Nonetheless, education and knowledge remain key points of departure and central foci of studies for the framework.

Accordingly, in the course of unfolding two dimensions of LCT, this book addresses a range of educational issues. Concepts are introduced in the context of analyses of: the peculiar position of British cultural studies in higher education (Chapter 2); proclaimed ‘revolutions’ in social science (Chapter 3); what is at stake in the ‘two cultures’ debate, why school qualifications in Music are so unpopular, and what relates such different issues (Chapter 4); the role of canons in the humanities and how these fields can develop cumulatively (Chapter 5); the conditions for cumulative learning at school and university (Chapter 6); the conditions for cumulative knowledge-building in research (Chapter 7); how ideas with little empirical basis, such as ‘student-centred learning’, become so powerful in education (Chapter 8); and why seemingly minor differences in intellectual fields can have major effects on their development (Chapter 9).

What these diverse topics share is a concern with knowledge-building: all chapters explore how powerful and cumulative knowledge can be built in research or learning (Chapter 10 explores the development embodied by concepts from and studies using LCT). A theme running through this book is building knowledge about knowledge-building. However, exploring these diverse topics (denoted by the subtitle of each chapter) is not the book’s sole purpose: they occasion the unfolding of the framework. Each chapter introduces new concepts (indicated by its main title) that build cumulatively into a conceptual toolkit and analytic methodology for substantive research. The book is thereby intended to contribute towards developing a realist sociology that resolves the knowledge paradox. In this chapter I begin with why this is necessary by discussing knowledge-blindness in educational research, a field ostensibly concerned with knowledge. Second, I introduce ‘social realism’, a school of thought that takes knowledge seriously as an object of study. Third, I briefly sketch the contours of LCT, highlighting its relations to social ontologies and research studies and introducing its conceptual architecture.

## **Knowledge-blindness in education**

The knowledge paradox extends to the intellectual field one might expect to explicitly address knowledge: educational research. Knowledge is the basis of education as a social field of practice – it is the creation, curricularization, and teaching and learning of knowledge which make education a distinctive field. Yet a *subjectivist doxa* in educational research reduces knowledge to knowing, and a deep-seated tendency towards constructivist relativism, based on a long-established but false dichotomy with positivist absolutism, reduces knowledge to

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power. The result is *knowledge-blindness*, leaving knowledge under-researched, the study of education underdeveloped, and the sociology of knowledge unaware of its ostensible object of study.

##### *The subjectivist doxa*

'I am,' Popper remarked, 'a great admirer of, and believer in common sense. But common sense is sometimes seriously mistaken. It is so in connection with the theory of knowledge ... For the commonsense theory of knowledge is subjectivist and sensualist' (1994a: 132). Popper was referring to the widespread belief that 'knowledge' entirely comprises a state of mind, consciousness or a disposition to act, is wholly sensory in source, and must be inextricably associated with a knowing subject. This subjectivist account of knowledge is also a doxa of educational research: it goes without saying that the study of 'knowledge' is exhausted by exploring processes of and influences on knowing. Indeed, this subjectivist view is so taken for granted across the field that what Popper (1979, 1994a) called 'objective knowledge' – including intellectual problem-situations, theories, critical discussions and arguments – has become almost entirely suppressed as a potential object of study.

The specific forms taken by the doxa in research depends on their underlying disciplinary influences. Psychologically informed approaches, for example, typically construe 'knowledge' as subjective states of consciousness and mental processes or, in more 'social' versions (such as activity and situated cognition theories), as aggregates of the workings of individual minds or communities of practice. In short, 'knowledge' represents processes of knowing within the minds of knowers. This perspective has been widely propagated by the rise of constructivist ideas which hold that:

knowledge, no matter how it be defined, is in the heads of persons, and that the thinking subject has no alternative but to construct what he or she knows on the basis of his or her own experience.

(von Glasersfeld 1995: 1)

Over recent decades, the theory of learning offered by constructivism has become propagated as a theory of everything, including teaching, curriculum, and research. Different knowledge practices have thereby been reduced to a logic of learning, based on the belief that 'the more basic phenomenon is learning' (Lave and Wenger 1991: 92). From this perspective, *what* is being learned is of little significance. Accordingly, research typically focuses on generic processes of learning and sidelines differences between the forms of knowledge being learned. An influential text, for example, states that:

scientific understanding of learning includes understanding about learning processes, learning environments, teaching, socio-cultural processes, and the many other factors that contribute to learning. Research on all of these

topics ... provides the fundamental knowledge base for understanding and implementing changes in education.

(Bransford *et al.* 2000: 233)

Research into knowledge as an object, into *what* is being learned, is thus not viewed as integral to ‘the fundamental knowledge base’ of educational research and policy. Indeed, while ‘knowledge’ is reduced to knowing, ‘what is being learned’ (that which is being mentally processed) is typically understood as the world rather than a system of knowledge about the world – the physical world rather than physics, the social world rather than sociology, etc. Bypassing knowledge, this subjectivist empiricism thereby commits what can be called the *learning fallacy* of confusing ‘epistemology’ with learning (see, for example, diSessa 1993).

Though couched in less explicitly mental terms, sociologically informed approaches to education offer a similar picture. Dominant approaches share a subjectivist account of knowledge, whether externalist analyses of relations between education and social structures or internalist studies of practices within education. From Hegel, through Marx, Mannheim, reproduction theories and onto standpoint theories, externalist sociologies have focused on how nationality, social class, gender, ethnicity, sexuality, geographic region, or other socio-historical factors shape actors’ ways of viewing, being and acting in the world. In short, they foreground the effects on knowing of the social circumstances of knowers (cf. Popper 2003b; Moore 2009). Internalist accounts typically focus more on relations among knowers but similarly view knowledge in terms of thinking, acting and being. From phenomenological studies of classroom practice underpinned by symbolic interactionism during the 1970s to discursively focused Foucauldian, Deleuzian and other ‘critical’ theories in recent years, research has explored how actors’ identities are shaped by interactions with others, or, in current parlance, the capacity for discursive practices to form, construct or assemble subjectivities.

Despite their many and significant differences, most sociological approaches to education thereby share a subjectivist understanding of knowledge – they offer sociologies of knowing. From this perspective, *what* knowledge is being created, pedagogized, taught and learned is of little significance. Rather, research typically explores the social influences on how different kinds of knowers act, think and feel. This subjectivist doxa is further reflected by the psychotherapeutic solutions proffered for overcoming such influences, including ‘socioanalysis’ (as mocked by Popper in 1945 [2003b], and later heralded by Bourdieu [1994]), ‘reflexivity’, consciousness-raising, and ‘auto-’ methods of self-reflection (Maton 2003). Moreover, as I shall now discuss, where knowledge itself enters the picture, it is engulfed by the question of *whose* knowledge it represents, as part of revealing the social interests these influences serve.

### *Knowledge-aversion*

Knowledge represents not simply a blind spot for educational research, it is also taboo. Studies of the intrinsic features of knowledge are typically stigmatized as

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ahistorical, asociological, idealist, positivist, and conservative. These associations follow from the application of methodological essentialism, the search for universal definitions, to the subjectivist understanding of knowledge. Historically, an influential result was the conviction that, as Moore summarizes,

to count as knowledge beliefs must be grounded directly in *unmediated* sensory experience and, hence, outside of history and detached from power and the social. Positivism was assumed as *the* model of knowledge and also of science.

(Moore 2009: 2; original emphases)

Crucially, positivism has repeatedly served as a touchstone against which approaches define themselves. The identification of a positivist mainstream, its denunciation, and the announcement of a more humanist and social approach has recurred in the guise of progressivism, standpoint theories, ‘critical’ theories, ‘post-’ theories, social constructivism, among others (Moore 2009). Despite their fundamental differences, such approaches all construct what Alexander (1995) terms an ‘epistemological dilemma’: a false dichotomy between positivist absolutism and constructivist relativism. That is, they posit a choice between understanding knowledge either as decontextualized, value-free, detached and certain or as socially constructed within cultural and historical conditions in ways that reflect vested social interests. Of these options, they then choose the latter, and thereby dissolve knowledge.

In other words, having (re-)discovered the obvious point that ‘knowledge is socially constructed’, many approaches take this to also mean ‘... rather than related to something real’. By committing the ‘epistemic fallacy’ of confusing epistemology with ontology (Bhaskar 1993: 397), social construction is extended from knowledge to reality. Berger and Luckmann (1966), for example, influentially declared the sociology of knowledge to be concerned with *The Social Construction of Reality*. At the same time, knowledge is reduced to nothing but an arbitrary reflection of a social position, standpoint, culture, ‘form of life’, ‘language game’, and so on. The key issue for research then becomes unmasking the social power underpinning the standpoint, culture, form of life, etc., to reveal ‘knowledge’ as the disguised interests of dominant social groups. Though highlighting the coupling of power/knowledge, knowledge is thereby reduced to social power.

The notions that knowledge practices may be more than arbitrary reflections of power, and that their forms possess properties and tendencies that are worthy of study, have thus become associated with positivism and the interests of dominant social groups. The central preoccupation of the sociology of education has accordingly been with what Bernstein (1990) called ‘relations to’, such as the relations of social class, gender and ethnicity to research, curriculum and pedagogy. In contrast, what he termed ‘relations within’, the ‘intrinsic features’ of knowledge, have rarely been analysed, for to do so, Bernstein argued, ‘would most likely lead to a charge of essentialism reinforced by a secondary,



more heinous charge of fetishism' (1996: 170). A well-known example of this stigmatization accompanied the emergence of the 'new sociology of education' in the early 1970s. Previously, a dominant approach to knowledge and curriculum had been the 'London line' in the philosophy of education (Peters 1967; Hirst and Peters 1970) that analysed academic subjects in terms of distinctions into logical 'forms' and development into 'indisputably logically cohesive disciplines' (Hirst 1967: 44). Advocates of the 'new sociology of education' portrayed this tradition as embodying a positivist model that essentialized, desocialized and dehistoricized knowledge, and proclaimed a 'new', social and more politically radical understanding of knowledge (Jenks 1977). Such negative connotations have dogged any focus on knowledge itself ever since.<sup>1</sup> Knowledge has become the silenced Other in education.

### *Knowledge-blindness*

The 'epistemological dilemma' limits what Bourdieu (1991) termed 'the space of possibles' within the field: the range of stances actors see as viable and legitimate. It posits a false choice between either positivism or relativism, so that the only *visible* option for seeing knowledge is ontologically untenable and morally undesirable. However, the 'space of possibles' is even more restricted than it might appear, for both sides of this false dichotomy share a subjectivist understanding of 'knowledge'. As Moore highlights, both 'are committed to the fundamental principle that truth is that which is given within the immediate consciousness of a knowing subject ... issues of knowledge are, for both, reduced to an epistemology of the knowing subject' (2013a: 341). For example, Berger and Luckmann, whose ideas have influenced generations of scholars, argued against a 'neo-positivist' focus on 'theoretical thought' and proclaimed that:

the sociology of knowledge must first of all concern itself with what people 'know' as 'reality' in their everyday, non- or pre-theoretical lives. In other words, commonsense 'knowledge' rather than 'ideas' must be the central focus for the sociology of knowledge.

(Berger and Luckmann 1966: 27)

The opposition they present is between two approaches that both construct knowledge (whether 'theoretical thought' or 'commonsense') as knowing. The 'epistemological dilemma' is thus embedded in a subjectivist doxa.

The resulting knowledge-blindness has implications far beyond epistemology. In research it focuses attention on processes of learning and whose knowledge is being learned, but obscures what is being learned and how it shapes these processes and power relations. Indeed, by reducing knowledge to knowing *and nothing but*, or to power *and nothing but*, the subjectivist doxa limits our understanding of knowing and power, for the crucial role played in these issues by 'relations within' knowledge is ignored. In teaching and learning, knowledge-blindness is reflected by oscillations between 'traditional' and 'constructivist'

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pedagogies that are generalized across the curriculum. In educational policy, knowledge is widely viewed as undifferentiated, as ‘generic’ skills (such as ‘critical thinking’) or interchangeable packets of information, and the basis of its selection, sequencing and pacing in a curriculum considered arbitrary. Indeed, knowledge-blindness has manifold consequences across education. For example, debates over educational technology, in which considerable budgets are at stake, obscure differences between everyday and educational knowledges, and between different forms of the latter. The resulting tendency is to deprofessionalize, if not denigrate (as resistant or uninformed) and attempt to bypass teachers who fail to adopt technologies in constructivist ways (Howard and Maton 2011).

This is not to suggest knowledge-blindness is universal. An incipient awareness of knowledge can be found within a range of specialisms, including applied psychology (Biglan 1973a, b; Bereiter 2002), studies of school subjects (Goodson 1997), higher education studies (Becher and Trowler 2001), educational technology (Scardamalia and Bereiter 2006), philosophy (Boghossian 2006; Frankfurt 2006), and science education (diSessa 1993), as well as popularly aimed publications (Benson and Stangroom 2006). However, recognizing the need to analyse knowledge is not realizing the analysis of knowledge, for this requires the right kind of conceptual tools. Three characteristics of these disparate fields of scholarship still leave educational research with, at best, knowledge-myopia. First, many arguments remain at the stage of calls to arms – they highlight the significance of knowledge but do not provide the means for its analysis. Second, where analytic tools are offered, the subjectivist doxa often reasserts itself in models of knowing, such as Bloom’s taxonomy (Krathwohl 2002), Shulman’s ‘PCK’ (1986), and diSessa’s ‘phenomenological primitives’ (1993). Third, among accounts which do analyse knowledge, models are often restricted to segmental typologies and taxonomies of limited explanatory power. As I discuss in Chapter 7 (and Maton 2013), this kind of theorizing offers a first step towards seeing knowledge but must be developed to conceptualize the organizing principles of knowledge if their properties and powers are to be explored.

The cumulative effect of the subjectivist doxa, epistemological dilemma and myopic modelling is to foster a belief that knowledge is only the knowing of knowers, that studying ‘relations within’ knowledge is subscribing to conservatism and positivism, and that, if studied, knowledge must be endlessly typologized. The result of these seductive illusions is the knowledge paradox: our understanding of contemporary society, in which knowledge is held to be key, and of education, a field based on knowledge, are afflicted by knowledge-blindness. Pointing to what is hidden by a blind spot is, however, difficult, for seeing it requires a new gaze and different insight. Social realism, a diverse school of thought to which Legitimation Code Theory is allied, lays the foundations for a new way of seeing that overcomes this blind spot. It demonstrates that exploring knowledge is neither positivist nor conservative, that analyses of ‘relations to’ and ‘relations within’ knowledge can be brought together, and that knowledge is not reducible to knowing.

## Taking knowledge seriously: Social realism

### *Coalescence of a coalition*

‘Social realism’ is the label for a variety of movements. Here I refer to a ‘coalition of minds’ in the sociology of education that emerged during the late 1990s (Maton and Moore 2010a). Like any ‘school of thought’, social realism is heterogeneous in terms of its constitutive intellectual contributions. These can be described by using the three criteria offered by Deleuze for determining ‘a worthwhile book’:

(1) you think that the books on the same or a related subject fall into a sort of general *error* (polemical function ...); (2) you think that something essential about the subject has been *forgotten* (inventive function); (3) you consider that you are capable of creating a new *concept* (creative function). Of course, that’s the quantitative minimum: an error, an oversight, a concept.

(quoted in Villani 1999: 56; original emphases)

Worthwhile books may serve these functions, but usually not all three equally. The principal concerns of most social realist work have been ‘polemical’ and ‘inventive’: the essential groundclearing and foundational functions of diagnosing general errors of educational thinking and highlighting the neglect of knowledge. Indeed, social realism emerged from scholars coalescing around the need to see knowledge as an object of study, as illustrated by emblematic early publications that aimed at *Reclaiming Knowledge* (Muller 2000), ‘Recovering pedagogic discourse’ (Maton 2000a), arguing ‘For knowledge’ (Moore 2000) and ‘Founding the sociology of knowledge’ (Moore and Maton 2001).

This initial impulse rippled out to include further protagonists. For example, an analysis of standpoint theories in cultural studies in Maton (1998, 2000b) (revised here as Chapter 2) helped influence an analysis of the sociology of education by Moore and Muller (1999) that prompted Young to respond (2000), resulting in a host of papers by various combinations of these scholars and others. Subsequently a succession of landmark works have set about *Bringing Knowledge Back In* (Young 2008), moving *Towards the Sociology of Truth* (Moore 2009), showing *Why Knowledge Matters in Curriculum* (Wheelahan 2010) and exploring *The Politics of Knowledge in Education* (Rata 2012). More widely, a series of international conferences and edited collections have enabled this concern with taking knowledge seriously to become a vibrant, inter-disciplinary endeavour embracing, among others, systemic functional linguists, educationalists of a wide range of subjects, and philosophers.<sup>2</sup>

### *Stronger knowledge*

In identifying errors and blind spots in educational thinking, social realism argues for a stronger theory of knowledge. Put simply, social realism shows knowledge to be not only social but also real (hence its name) in the sense of possessing

properties, powers and tendencies that have effects. Accordingly, research aligned with social realism explores the organizing principles of (or ‘relations within’) different forms of knowledge, their modes of change, and their implications for such issues as social inclusion, student achievement, and knowledge-building (e.g. Maton and Moore 2010b). Space precludes discussing the scrupulous arguments of social realist scholars – they deserve to read in the original. Moreover, like any non-doctrinaire ‘school of thought’, social realism is heterogeneous in terms of influences, modes of argument, and concepts.<sup>3</sup> Thus, rather than attempt to definitively summarize or speak on behalf of a school of thought, I shall introduce stances fundamental to social realism using ideas I find particularly illuminating. Specifically, I draw on critical realism to explain how the ‘epistemological dilemma’ can be denied, and on critical rationalism to illustrate how the subjectivist doxa can be defied.

### *Denying the dilemma*

Social realism has made the ‘epistemological dilemma’ a central concern. Following Bernstein (1990), social realists have typically focused on combating the sociological reductionism endemic to studies of ‘relations to’ education. In short, social realism holds that analyses of ‘relations to’ and ‘relations within’ education and knowledge can be brought together to offer greater explanatory power, thereby denying the dilemma. To illustrate how, I shall begin by drawing on notions of ‘ontological realism’, ‘epistemological relativism’ and ‘judgemental rationality’ from critical realist philosophy, as pioneered by Bhaskar (see Archer *et al.* 1998).

‘Ontological realism’ recognizes that knowledge is about something other than itself, that there exists an independently existing reality beyond discourse that helps to shape our knowledge of the world. This is *not* to suggest knowledge is an unmediated reflection of reality but rather that knowledge is more than the arbitrary expression of power relations, and that reality may react back on knowledge. ‘Epistemological relativism’ acknowledges that our knowledge of the world is not universal, invariant, transhistorical and essential Truth. Rather, we can only know the world through socially produced knowledges that change over time and differ across social, historical and cultural contexts. Crucially, epistemological relativism does not entail judgemental relativism, the notion that judgements among different knowledges are not possible. Instead, ‘judgemental rationality’ highlights that there are intersubjective bases for determining the relative merits of competing claims to insight. It is not contradictory to argue *both* that definitive Truth has not been and, indeed, may never be attained *and* that there exist means of judging among knowledge claims, for critical preference does not entail transhistorical belief (cf. Popper 1959).

Together these ideas highlight that we construct knowledge of the world but not just as we please (or at least not free of worldly consequences), not perfectly, and not simply by ourselves. Put another way, actors construct knowledge but not under conditions or in ways entirely of their own making, and not entirely alone. Rather, knowledge is about something other than itself, draws on existing knowledge, and

is produced and judged by socially situated actors. Social realism develops these ideas sociologically to deny the ‘epistemological dilemma’ in educational research.<sup>4</sup>

Against positivism, knowledge is understood as inescapably social and historical but, against constructivism, knowledge is not reduced to social power alone, as some knowledge claims have greater explanatory power than others. Social realism is thus concerned neither with essentialist definitions of ‘knowledge’, ‘truth’ or ‘belief’, nor with proclaiming all definitions equal. Rather, it highlights the need to explore how knowledges come to be defined in particular social and historical contexts, their forms, and their effects. Accordingly, this perspective views intellectual and educational fields as comprising *both* relational structures of knowledge practices *and* actors situated within specific social and historical contexts. In so doing, it shows that knowledge practices are *both* emergent from *and* irreducible to their contexts of production – the forms taken by knowledge practice in turn shape those contexts.

Social realism also reveals that analysing the intrinsic features of knowledge is not asocial; indeed, the converse holds: studies that overlook knowledge are not social enough. Though emphasizing their focus on the ‘social’ nature of knowledge, constructivist approaches and ‘strong’ programmes in the sociology of knowledge obscure a critical feature shaping the communities engaged in its production. As Popper argued, ‘*What the “sociology of knowledge” overlooks is just the sociology of knowledge*’; it ‘shows an astounding failure to understand precisely its main subject, the *social aspects of knowledge*’ (1957: 144; 2003b: 240; original emphases). By overfocusing on one social aspect, namely ‘relations to’ knowledge, these approaches neglect another social aspect: ‘relations within’ knowledge, which are socially generated, maintained and changed. They fail to grasp that knowledge is not constructed by individuals as each sees fit but rather produced by actors within social fields of practice characterized by intersubjectively shared assumptions, ways of working, beliefs and so forth. The philosophical term ‘judgemental rationality’, reflecting a focus on natural science, does not capture the wide array of different forms taken by these ‘rules of the game’. Chapter 8, for example, shows the field of educational research to be more axiological than epistemological in basis – less ‘rationality’ than ‘sentimentality’. Nonetheless, the broader notion of intersubjective judgement that the term highlights is not itself an article of faith: the existence of social fields of practice such as higher education, law and medicine demonstrates there *are* such bases for judging knowledge, however fallible, contested and subject to change they may be.

Crucially, social realism does not hold an empiricist view of social fields of practice as comprising direct social interactions. Actors sharing an epistemic community may never meet personally; their knowledge practices are

the product of an immense cooperation that extends not only through space but also through time; to make them, a multitude of different minds have associated, intermixed, and combined their ideas and feelings; long generations have accumulated their experience and knowledge.

(Durkheim 1912/1967: 15)

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However, to fully understand these social aspects of knowledge one must first overcome the subjectivist doxa.

### *Defying the doxa*

Dissolving the ‘epistemological dilemma’ does not by itself overcome knowledge-blindness, for one can construe the above in terms of knowing. One also needs to defy the subjectivist doxa by seeing knowledge as more than the mental states, mental processes or dispositions to act of knowers. To help grasp this difficult, even counterintuitive notion, I shall draw on ideas from critical rationalism, as pioneered by Popper.

Consider Popper’s heuristic distinction between three metaphorical ‘worlds’: *world 1* refers to physical bodies and their physical and physiological states; *world 2* refers to mental states or processes; and *world 3* refers to the products of our human minds, such as architecture, art, literature, music, scholarship, educational knowledge, etc. (1979, 1994a, b). Key here is Popper’s distinction between world 2, which includes ‘subjective knowledge’ or what I term ‘knowing’, and world 3, which includes ‘objective knowledge’ (meaning it has an objective existence and *not* that it is certain) or what I simply term ‘knowledge’.<sup>5</sup> Popper highlights that things may participate in more than one ‘world’; for example, this book is physical, the product of my human (all too human) mind, and elaborates an explanatory framework. Though a *product* of world 2 and *made manifest* in the materials of world 1, the framework itself is a member of world 3. It is ‘objective knowledge’ and, though the product of mental processes, is not reducible to my ‘subjective knowledge’ – it comprises knowledge not knowing.

As Popper (1979, 1994a) emphasizes, the three ‘worlds’ are not an axiomatic ontology but rather metaphors for making a simple point. The point here is that though knowledge is the product of our minds, it has relative autonomy from knowing – knowledge has emergent properties and powers of its own. This can be seen in the ways knowledge mediates: creativity; learning; and relations among knowers. First, creativity involves not simply an unfolding of something already existing within us but rather ‘give and take’ between the creator and the evolving object of creation; the products of our minds ‘react back’ on our thoughts, ideas, aims and dispositions. Anyone who creates scientifically or artistically will have experienced this ‘give and take’ and the reality of ideas: once formulated as knowledge, ‘objectified’, our ideas can reshape our knowing. We can both improve and be improved by what we create. That it can be argued knowledge originates in our minds thus does not necessitate reducing the former to the latter: a symbolic product is not identical with the mental and physical processes of its genesis.

Second, against the *learning fallacy* propagated by empiricist understandings of knowing, we do not learn about the world in an unmediated and direct fashion but rather in relation to existing and objectified knowledge about the world. We can ‘plug into’ existing knowledge and so do not have to start from scratch or attempt by ourselves to recreate what has taken, in the case of ‘academic’ knowledge, thousands of years and even more minds to develop. As Popper

argues, we can each gain far more from this heritage than we contribute. Thus studies of learning that overlook knowledge fail to grasp one of the most significant dimensions shaping the development of actors' forms of knowing.

Third, returning to its social aspects, knowledge also mediates relations among knowers in fields of practice. As Popper (1994a) argued, Einstein said 'My pencil is cleverer than I am' because explicitly formulating his ideas enabled him to 'plug into' a world of ideas beyond his own mind, relate the products of his mind to those of other minds, and thereby achieve results beyond his intentions or hopes. Similarly, Paul Dirac said 'My equation is smarter than I am' (Farmelo 2002: xvii) because it had 'the strangest and most startling consequences' (Wilczek 2002: 133) that were unintended, unanticipated and inexplicable in terms of his own consciousness. (Dirac declared: 'It gave just the properties one needed for an electron. That was really an unexpected bonus for me, completely unexpected'; quoted, *ibid.*: 132). As knowledge the 'Dirac equation' could also be extended, related to ideas and applied by other actors. Thus, to offer a properly social account of knowledge, one must see knowledge itself.

One could argue these examples describe interactions between the mental states of knowers. Knowledge practices could be described as symbolic or linguistic expressions of subjective mental states or dispositions that evoke mental states or dispositions in other actors. However, whatever their veracity, such claims do not license viewing knowledge, the medium of these interactions, as a homogeneous and neutral relay for messages between minds. Collins describes how intellectual production involves creating 'coalitions in the mind':

The intellectual alone, reading or writing: but he or she is not mentally alone. His or her ideas are loaded with social significance because they symbolize membership in existing and prospective coalitions in the intellectual network.

(Collins 2000: 7, 51–52)

However, minds do not connect directly via a mental aether. 'Coalitions in the mind' occur via *knowledge beyond the mind*, and the nature of that knowledge shapes the kinds of 'existing and prospective coalitions' that are possible. As this book demonstrates, the organizing principles of knowledge shape the spatial and temporal reach, modes of engagement, and forms of development of social fields. They are key to social inclusion and social justice, in both education and civic life. Though made by us, knowledge possesses properties and tendencies of which we may be unaware and which may lead to consequences that are unintended, even contrary to our aims and beliefs; Chapters 2, 5 and 9, for example, explore the deleterious effects of fragmentation on cultural studies caused by tendencies intrinsic to its knowledge claims. Chapter 6 and other research studies (e.g. Chen *et al.* 2011) explore how forms of knowledge enacted in pedagogic practices differentially affect the educational achievement of social groups of knowers. Thus, any social justice agenda that excludes analysis of relations within knowledge is unlikely to succeed, for our knowledge practices are anything but neutral.

*From seeing to analysing*

For social realism, studies of knowledge and education have ignored their ostensible objects of study. Against the reductionism engendered by the ‘epistemological dilemma’, social realism holds with Alexander (1995: 129) that ‘the sociology of knowledge can never substitute for the analysis of knowledge’. Against the subjectivist doxa, social realism would proclaim with Popper that ‘no theory of subjective knowledge will be able to account for objective knowledge’ (1994a: 13). In short, knowledge itself needs to be taken seriously. To do so requires not only the right way of seeing but also the right conceptual tools for analysing this object of study.

Social realist work predominantly establishes the need to see knowledge. It is thanks to this pioneering work in what Deleuze termed ‘polemical’ and ‘inventive’ functions that the current book is able to focus on the ‘creative function’ of developing new concepts. This is not to say this book does not itself also highlight errors and oversights. The work collected here has formed part of social realism’s critical engagement with educational research to recover knowledge as an object. Moreover, it also critically engages with social realism itself, to overcome a tendency intrinsic to this endeavour of overfocusing on explicit structures of knowledge at the expense of practices more concerned with developing knowers. As subsequent chapters will highlight, when arguing for knowledge to be seen it is easy to valorize the kinds of knowledge most easily seen: explicit, abstract, condensed, hierarchical forms that visibly announce themselves. This tendency can drift towards offering a deficit model of the arts, crafts, humanities and many social sciences, as well as everyday understandings, where knowledge may be less explicit and more concrete, context-dependent, embodied, and axiological. At this point, knowledge-blindness gives way to seeing nothing but knowledge and obscuring practices for socializing or cultivating knowers. Accordingly, this book serves the polemical and inventive functions of avoiding both the Scylla of knowledge-blindness and the Charybdis of knower-blindness. However, its *principal* concern lies with the corresponding *creative* function of developing concepts for analysing both knowledge and knowers.<sup>6</sup> I shall now begin to introduce the conceptual toolkit and analytic methodology that is Legitimation Code Theory.

## **Analysing knowledge and knowers: Legitimation Code Theory**

### *What kind of ‘theory’?*

We have one word for ‘theory’ – we need many. As Merton (1957) highlighted, ‘theory’ is used in manifold ways, a polysemy that, Boudon (1980) suggested, results partly from failing to distinguish theories from paradigms. Given several ‘-isms’ have been mentioned, it is thus worth clarifying what *kind* of ‘theory’ is referred to by ‘Legitimation Code Theory’ (LCT) before sketching its conceptual contours and how they are related within this book.



I must emphasize: my aim is *not* to describe the intellectual pedigree of LCT – ‘epistemological botany’, as Bernstein (2000: 92) put it – but simply to orient the reader to the kind of thing they will encounter in subsequent chapters.

To do so I shall revise a schema from Archer (1995) to describe *social ontologies* (SO), *explanatory frameworks* (EF), and *substantive research studies* (SRS), as heuristically depicted in Figure 1.1. One can thereby analytically distinguish three kinds of ‘theories’ based on different problematics: meta-theories of ontologies; theories (in the sense used in ‘LCT’) of frameworks; and substantive theories of studies. Arrows in Figure 1.1 indicate ideal relations among these kinds of theories for building cumulative and powerful knowledge: social ontologies offer meta-theoretical implications for explanatory frameworks (SO→EF); frameworks inform social ontologies by mediating their access to the social world (SO←EF); frameworks inform substantive research studies (EF→SRS), as all research involves a theory, whether explicit or tacit, that defines data; and studies inform frameworks by ‘speaking back’ to theory in the light of what data reveal (EF←SRS).



Figure 1.1 Meta-theories, theories and substantive theories

LCT can be described as an explanatory framework for enactment in and (re-)shaping by substantive research studies – in Figure 1.1, LCT embraces ‘EF’ and interrelations with ‘SRS’ (both arrows). LCT develops from and for research into substantive problems. A defining characteristic is its evolution through research into a growing range of topics, where data ‘speak back’ to the theory, demanding clarifications, refinements and new developments. In short, LCT is a practical theory rather than a paradigm, a conceptual toolkit and analytic methodology rather than an ‘-ism’, and sociological rather than philosophical.

This helps clarify what LCT is not. First, it is not a specific substantive account of knowledge or education. Studies using concepts from LCT generate conjectures concerning problem-situations, such as the basis of fragmentation in intellectual fields (Chapters 2, 5 and 9), choice of school qualifications (Chapter 4), or practices enabling cumulative knowledge-building (Chapters 6 and 7; Maton 2013). However, these explanations are not the framework itself but rather outcomes of its creative enactment. This is not to describe legitimation code research as separate to Legitimation Code Theory – indeed, studies are a principal driver of the theory’s development. Rather, it is to distinguish between a conceptual framework and the explanations, arguments and conclusions

concerning substantive issues generated using that framework.<sup>7</sup> As Archer (1995: 6) states, ‘an explanatory framework neither explains, nor purports to explain, anything’. One could say that LCT invites use to generate explanations.

Second, LCT is not an epistemology or ontology. This is not to suggest it is without epistemological or ontological assumptions and implications. LCT is characterized by, *inter alia*, depth ontology involving stratification and emergence, relational analysis, generative theorizing, and a non-empiricist exploration of the organizing principles of practices. However, it is not a meta-theory of why such characteristics are ontologically necessary. In short, LCT is *realist* rather than *a realism*. In contrast, much social realist work explores relations between frameworks and ontologies, quarrying what must be the case about knowledge and education given what studies using frameworks such as code theory reveal and, conversely, exploring the kinds of frameworks required to explore phenomena established by a realist understanding of knowledge and education. Philosophies being engaged with by this work include critical realism, whose meta-theoretical implications appear compatible with code sociology (Wheelahan 2010; Moore 2013a), critical rationalism (above), and Cassirer (Young and Muller 2007).

Social ontologies, explanatory frameworks, and substantive research studies enjoy relative autonomy from each other. On the one hand, studies using LCT are not cookie-cutter applications; they involve creative enactment in dialogue with the specificities of their objects of study. Conversely, LCT does not comprise segmented and empiricist models of particular contexts. There exists what Bernstein (2000) called a ‘discursive gap’ between theory and data that is traversed through ‘external languages of description’ for translating between them (Chapters 6 and 7; Maton *et al.* 2014). On the other hand, while they are compatible, LCT did not arise solely from working through the sociological implications of critical realist or critical rationalist philosophies, any more than they arose from exploring the ontological implications of LCT. They each have their own logics, trajectories, objects of study, problem-situations, concepts, methodologies, and data. One can thus extend Bernstein to describe a second ‘discursive gap’ between meta-theories and theories that is traversed through the kind of work exemplified by social realism. These discursive gaps between ontologies and frameworks, and between frameworks and the data of studies, allow for reality to speak back to theories and to meta-theories. Failure to recognize or to traverse both these gaps creates obstacles for powerful and cumulative knowledge-building.

Explanatory frameworks, however, often explore one gap more than the other, either more clearly articulating their ontological basis or better developing the practicality of their concepts for research. This shapes their reception, easing philosophical acceptance as, for example, ‘critical realist’, or providing more explanatory power for researchers. LCT is primarily driven by problem-solving and its exposition in this book is concerned with the first discursive gap. (For example, relations between theory and data are explicitly discussed in Chapters 6, 7 and 8). However, LCT is a social realist approach, and social realism’s greater focus on the second

discursive gap provides a valuable connection with ontologies. Space precludes discussion here. I will simply note that realist ontologies themselves establish the need for specialized explanatory frameworks to engage with distinctive objects of study (which can work together to better capture the complex nature of reality). Accordingly, Bhaskar (1989) describes critical realism as an ‘under-labourer’ rather than overlord. In contrast, philosophical failure to recognize this gap can lead to ontological policing (based on the fallacy that frameworks and studies cannot work without philosophical accreditation), reductionism (where explanatory frameworks are viewed as concerned with ontology), and substitutionism (where meta-theories are ‘applied’ in substantive studies consequently characterized by bifurcated discourses of ontological axioms and empirical descriptions – the return of the repressed discursive gap).

### ***LCT and Knowledge and Knowers***

LCT is more than *Knowledge and Knowers*. Substantively, the book begins from the knowledge paradox, addresses a diversity of educational issues, and contributes towards a realist sociology of education. However, LCT itself is more accurately described as a *sociology of legitimacy* or a *sociology of possibility* with broader application. As a growing range of studies reveal, its concepts enable the exploration of social fields beyond education and of practices other than knowledge (Chapter 10). Theoretically, as discussed above, the principal focus of this book lies not with philosophical discussions nor with empirical descriptions but rather with unfolding an explanatory framework in relation to substantive research studies. However, LCT comprises more than the concepts introduced here. I shall thus briefly locate this book within the broader contours of the framework as multi-dimensional, cumulative and evolving.

### ***Multidimensional***

LCT includes a multidimensional conceptual toolkit for analysing actors’ dispositions, practices and contexts, within a variegated range of fields. For LCT, society comprises an array of relatively autonomous social universes that are neither wholly separate from nor reducible to others. Each field has its own distinctive ways of working, resources and forms of status that are specific in terms of their realizations yet similar in terms of their underlying generative principles. Within each field, actors cooperate and struggle to maximize their relational positions in its hierarchies by striving both to attain more of that which defines achievement and to shape what is defined as achievement to match their own practices. LCT highlights that actors’ practices thereby represent competing claims to legitimacy, whether explicit or tacit (such as routinized ways of working) – they are *languages of legitimation* (Chapter 2). These strategies to shape the ‘rules of the game’ are themselves shaped by relations between actors’ dispositions (which are in turn shaped by previous and ongoing experiences in fields) and the current structure of the field. The organizing principles of dispositions, practices and fields are conceptualized by LCT in terms of

*legitimation codes*, each ‘code’ representing in effect a currency proposed by actors as the ruler of the field. Underlying the structuring of fields, and acting as a kind of exchange rate mechanism among currencies, is the *Legitimation Device* (Chapter 3). Whoever controls this ‘device’ establishes specific legitimation codes as dominant and so defines what is legitimate, shaping the social field of practice as a dynamic field of possibilities. To analyse legitimation codes is thus to explore what is possible for whom, when, where and how, and who is able to define these possibilities, when, where and how.

Table 1.1 Basic summary of legitimation codes

<i>Codes</i>	<i>Concepts</i>	<i>Principal modalities</i>
Autonomy	positional autonomy, relational autonomy	PA+/-, RA+/-
Density	material density, moral density	MaD+/-, MoD+/-
Specialization	epistemic relations, social relations	ER+/-, SR+/-
Semantics	semantic gravity, semantic density	SG+/-, SD+/-
Temporality	temporal position, temporal orientation	TP+/-, TO+/-

Thus far, the conceptual toolkit of LCT comprises five ‘dimensions’: Autonomy, Density, Specialization, Semantics, and Temporality. Each dimension includes concepts for analysing organizing principles as specific kinds of *legitimation codes*, such as *specialization codes* and *semantic codes*. Table 1.1 lists the principal concepts generating different legitimation codes. Each dimension also explores an ‘aspect’ to the Legitimation Device (the generative mechanism of social fields of practice), such as the *epistemic-pedagogic device* (Specialization) and the *semantic device* (Semantics). Figure 1.2 summarizes the five dimensions of LCT, devices and codes in a simplified and synoptic manner.

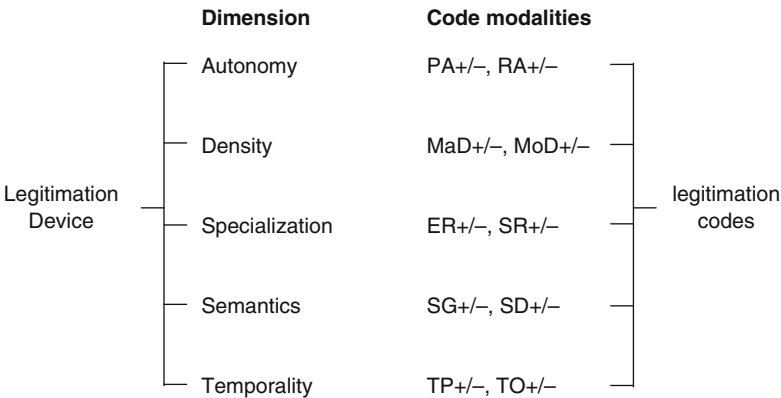


Figure 1.2 Synoptic view of five dimensions of LCT

Crucially, each dimension explores not different empirical practices but rather different organizing principles of practices. Thus, more than one dimension can be utilized in research into a specific object of study. However, in research you only need as much theory as the problem-situation demands, no more and no less. Thus, not all these concepts are required for all substantive studies. Moreover, in publishing, you only need as much theory as space will allow. Accordingly, this book is limited to explicating two dimensions of LCT: Specialization, the first developed, most elaborated and most enacted in studies; and Semantics, the newest but fastest growing in research. (Other dimensions are articulated in Maton 2005a, b). Each dimension comprises a set of concepts. Specialization includes *specialization codes* (Chapter 2), *the epistemic-pedagogic device* (Chapter 3), *knowledge-knower structures* (Chapter 4), *gazes* and *insights* (Chapters 5 and 9); and Semantics includes *semantic gravity* (Chapter 6), *semantic density* (Chapter 7), and *condensation* (Chapter 8). Using dimensions together also generates further concepts, such as different forms of condensation (Chapters 8 and 9). As well as not discussing other dimensions, the book is not an exhaustive account of these two dimensions: for example, if space allowed I would add ‘Making semantic waves’ (Maton 2013), which develops Semantics further. Nonetheless, the book offers an introduction to key landmarks in the unfolding of the two most widely used dimensions of LCT thus far.

### *Cumulative*

Knowledge-building is a theme of the book, both as focus and form. Chapters explore the bases of cumulative progress in a range of intellectual and educational fields. The theory itself also extends and integrates concepts from established approaches. Intellectual influences on the development of LCT are manifold, for its ongoing evolution is concerned less with maintaining a pure intellectual lineage than with generating explanatory power. The theory thus embodies what Bernstein (1977) called an allegiance to a problem rather than to an approach, and the belief, as Bourdieu (1994) put it, that being Marxist, Weberian, Durkheimian, etc., are religious rather than social scientific choices. Nonetheless, its most central foundations are Pierre Bourdieu’s ‘field theory’ and Basil Bernstein’s ‘code theory’. LCT develops rather than displaces these frameworks, though in different ways that themselves feature to different degrees within this book. In short, chapters typically begin from code theory, as its concepts are the most directly built upon by those of LCT.

Concepts are not all created equal: they can do different things. Earlier I described a division of conceptual labour among ontologies, frameworks and studies. Concepts from different frameworks also offer different qualities: some provoke thought, others orient one’s gaze, less offer analytic power in empirical research. Bourdieu’s field theory is widely described as ‘good to think with’ and offers what he called ‘a sociological eye’ that involves ‘a mental revolution, a transformation of one’s whole vision of the social world’ (Bourdieu and Wacquant 1992: 251). Specifically, field theory calls for a relational and realist

gaze: ‘To think in terms of field is to *think relationally*’; one must see that ‘*the real is the relational*’ (ibid.: 96, 97), something which ‘requires a conversion of one’s entire usual vision of the social world, a vision which is interested only in those things which are visible’ (Bourdieu 1994: 192). Moreover, Bourdieu’s key concepts of ‘field’, ‘capital’ and ‘habitus’ highlight issues for understanding practice and emphasize the need to move beyond surface features to explore their organizing principles and emergent properties (Grenfell 2004).

However, while highlighting what needs to be analysed and how, Bourdieu’s ‘thinking tools’ do not fully enable what he called for. As relational concepts, they are intentional rather than operative (Boudon 1971). For example, the internal structuring of a habitus cannot be described separately from a description of the practices it gives rise to (Bernstein 2000, Maton 2012) – ‘relations within’ habituses remain untheorized as relational systems. Similarly, while calling for ‘a realist theory of knowledge’ (2004: 3), Bourdieu’s concepts reduce knowledge practices to epiphenomena of the play of positions among actors within a field (Chapter 2). Thus, while enabling a ‘mental revolution’, field theory is an unfinished conceptual revolution: the framework does not reveal the organizing principles of practices, dispositions and fields.

LCT embodies the relational mode of thinking of field theory to develop operative relational concepts and to enact realist knowing as realist knowledge. However, after Chapter 3, theoretical development in this book does not begin from Bourdieu’s concepts. Their influence becomes that which he emphasized as the framework’s most significant feature: the ‘gaze’ it exemplifies. This is not to say LCT concepts cannot be explicitly developed from field theory; Maton (2005a), for example, extends Bourdieu’s notion of autonomy to introduce *autonomy codes* (though this concept can also be developed from Bernstein’s concepts of ‘singulars’ and ‘regions’). Nonetheless, this book does not extensively elaborate relations to field theory, for its principal focus lies with a closer and more direct launching pad for theoretical innovation: Bernstein’s code theory.

As I shall elaborate, where Bourdieu’s field theory provides a new *gaze*, Bernstein’s code theory provides a different *insight* (Chapter 9); where Bourdieu offers a ‘mental revolution’, Bernstein enables a conceptual evolution that is required to democratize that gaze (Chapter 7). That is, code theory provides a *conceptual* basis for cumulatively building a relational and realist sociology as an extended epistemic community (Chapter 3). Code theory not only provokes thought and orients one’s gaze, its central notions of ‘codes’ and ‘devices’ also provide templates for enabling analytic power in substantive research. I shall not elaborate here on code theory (see Atkinson 1985; Moore 2013b) or its relations to LCT: Bernstein’s concepts provide the explicit starting point for subsequent chapters, and these relations are revisited in Chapter 10. I shall only highlight that LCT works *within* Bernstein’s problematic and approach to extend and integrate existing concepts in ways he described as the basis for cumulative knowledge-building, so as to enable greater fidelity to more phenomena with conceptual economy. As I emphasize in Chapter 10, there is more to Bernstein’s framework than the concepts built upon in this book. Nonetheless, subsequent chapters

illustrate how the framework inherited from Bernstein can be developed to overcome both knowledge- and knower-blindness in educational research and to resolve the knowledge paradox in social science.

### *Evolving*

Bernstein (2000) insisted code theory represents a work-in-progress. Accordingly, LCT is always evolving, in relations with data, inherited frameworks, and other approaches (Chapter 10). As concepts are used to explore new problem-situations, these objects of study ‘speak back’ to the theory, raising questions and necessitating theoretical development. Moreover, as repeated throughout this book, answers to questions beget new questions: cumulative knowledge-building is an unending process. Accordingly, *Knowledge and Knowers* presents not a finished theoretical system as a fully formed and baroque edifice but rather a cumulative set of papers that unfold an explanatory framework as it evolved through time. Chapters are arranged in chronological order of the development of the concepts they introduce, based on ideas first publicly aired in 1998 (Chapter 2), 2000 (Chapter 3), 2004 (Chapter 4), 2006 (Chapter 5), 2007 (Chapter 6), 2008 (Chapters 7 and 8), and 2012 (Chapter 9). Each chapter builds on both concepts from code theory and preceding chapters, whose main points I briefly summarize, creating some repetition but enabling, I hope, each chapter to be understood independently and underlining how LCT concepts extend and integrate existing ideas.

Where chapters are based on published papers, they have been revised for this book, sometimes extensively.<sup>8</sup> For example, the notion of extending Bernstein’s ‘pedagogic device’, undertaken in Chapter 3, was originally inspired by work with Rob Moore (Moore and Maton 2001), but is now radically different in its theorization (and written in 2012). If time allowed, I would revise many of these chapters further, especially older ones. The reason is simple and salutary: I have learned more about LCT and have learned more from LCT. It is because knowledge is not knowing that working with the framework and preparing this book have taught me much about LCT I did not previously know. At the same time, the social reality of knowledge also advanced my understanding: LCT is being rapidly adopted across a range of countries and disciplines to explore an ever-widening array of issues, posing questions that continue to reshape the framework. This has been above all a process of creative evolution, of both LCT as knowledge and me as a knower. It is in that spirit of open-ended and social creativity that the following chapters are offered, with the aim of contributing towards a better understanding and better forms of knowledge, education and society.

### Notes

- 1 Chapter 8 conceptualizes the basis of this process as an *axiological cosmology* whereby a knower code creates binary constellations of stances that are condensed with axiological meanings and charged positively and negatively.

- 2 The biennial ‘International Basil Bernstein Symposium’ was one key venue for developing social realist ideas (Morais *et al.* 2001; Muller *et al.* 2004; Moore *et al.* 2006; Singh *et al.* 2010; Iverson *et al.* 2011; see also Frandji and Vitale 2010). International conferences in Sydney on ‘Reclaiming Knowledge’ (2004) and ‘Disciplinarity, Knowledge and Language’ (2008) brought together social realists with systemic functional linguists (Christie and Martin 2007; Christie and Maton 2011); and a symposium on ‘Social Realism in Education’ in Cambridge (2008) also involved critical realist philosophers (Maton and Moore 2010b).
- 3 An example of this ‘similarity in difference’ is that I shall adopt ideas from Popper more extensively here than is found in extant literature.
- 4 These arguments do not flow directly from the preceding ontological premises; they employ sociological concepts, such as ‘social fields of practice’ and ‘rules of the game’. I discuss relations between ontologies and frameworks, further below.
- 5 I prefer ‘knowledge’ and ‘knowing’ over Popper’s terms because ‘objective’ and ‘subjective’ invite misconstrual as ‘certain, universal, disinterested’ and ‘partial, situated, vested’ – that is, they are likely to reinforce the ‘epistemological dilemma’.
- 6 This highlights the ‘difference in similarity’ of social realism that the label may disguise. For example, in claiming social realists focus on knowledge at the expense of ideal knowers projected by practices, critics (e.g. MacKnight 2011) unwittingly repeat arguments fundamental to developing the LCT concepts of *social relations* (Maton 1998, 2000a, b, 2005b), *knower structures* (Maton 2006, 2007), *gazes* (Maton 2004, 2009, 2010a), and *axiological cosmologies* (Maton 2008; Martin *et al.* 2010), among others. Moreover, these longstanding arguments are being absorbed by social realism (e.g. Muller 2007, 2012), which is beginning to bring knowers back in.
- 7 Maton (2013), for example, includes the concept of ‘semantic waves’ and a conjecture concerning the significance of enacting semantic waves in classroom practice. If the conjecture is shown to be false, the concept may remain productive; indeed the concept may be the basis for revealing that falsity and offering an improved model. The concept and the conjecture are thus not identical. The former is part of the framework of LCT; the latter is an outcome of its enactment within a specific research project.
- 8 The analytic outlines of Chapters 2 and 6 originate in Maton (2000a, b) and Maton (2009). Chapters 4 and 5 are revised versions of Maton (2007) and Maton (2010a), respectively, both by kind permission of Continuum International Publishing Group.