Language, Knowledge and Pedagogy

Functional Linguistic and
Sociological Perspectives

Edited by Frances Christie and J.R. Martin

5 Knowledge–knower structures in intellectual and educational fields

Karl Maton

For every knowledge structure there is also a knower structure.

Introduction

Why bother reading this chapter? On what grounds am I claiming insight or understanding? How can I claim to be a 'sociologist'? These are the kinds of questions I shall focus on: the basis of achievement, status and membership; i.e. the issue of how knowledge and knowers are specialized. The work of Basil Bernstein is particularly valuable for addressing such questions. Where most approaches in the sociology of knowledge and education focus on *relations to* knowledge (of class, race, gender and so forth), Bernstein's approach pays attention to *relations within* knowledge. Instead of simply showing how identity shapes knowledge, this approach also reveals how knowledge itself specializes identity, consciousness and relations. In this chapter I explore how Bernstein's conceptual framework sheds light on these issues and how his ideas can be developed to create further insights.[1]

The reasons for developing the approach further are immanent in the form of its development. One trajectory that can be traced through Basil Bernstein's sociology is from the analysis of the pedagogic practices of educational fields of reproduction (1977), through an account of the construction of educational knowledge (1990), to the study of the intellectual fields of production from which this knowledge is selected and recontextualized (1999). With the concepts of educational knowledge codes, the pedagogic device and knowledge structures, respectively, Bernstein showed how structurings of intellectual and educational knowledge specialize actors and discourses in ways that shape social relations, institutional organization, disciplinary and curricular change, identity, consciousness and habitus (Singh 2002; Moore 2004). This trajectory has been characterized by an unusually intimate dialectic between theory and research (Bernstein 1996). Thanks to the form taken by the theory (Moore and Muller 2002), in each case its development (in the light of previous research) created new ways of seeing existing objects of study and highlighted new objects for empirical research to explore. In turn, subsequent research spoke back to the theory, raising new questions and necessitating further conceptual development. Bernstein was fond of saying one should aim for 'productive imperfection' and stated that his concepts represented a provisional mapping of intellectual fields. One can thereby rest assured that the notion of 'knowledge structures' is not the end of the matter. In this chapter I elaborate on a means of continuing this neverending story.

Specifically, I address two questions raised by the concepts of knowledge structures (see Maton and Muller, this volume). Bernstein's language of description provides a means of systematically describing differences between the discursive practices of intellectual fields, raising the question of conceptualizing the generative principles underlying these fields of production. This formed a starting point for the development of *legitimation codes* (Maton 2000a, 2000b) and the *epistemic device* (Moore and Maton 2001). Legitimation codes provide a means of conceptualizing the structuring principles underlying intellectual fields; the epistemic device is the means whereby these codes (and so the form taken by intellectual fields) are created, maintained, reproduced, transformed and changed. The epistemic device was intended to complement rather than displace the pedagogic device; rather than being specific to intellectual and educational fields respectively, *both* devices form the basis for production, recontextualization and reproduction of knowledge. Though developed through studies of knowledge production, the concepts were thereby intended to illuminate educational knowledge and practice more generally, and in a number of studies are being used to analyse educational fields.[2] However, in terms of Bernstein's theory, a second question remains of relations between the concepts of knowledge structures and educational knowledge codes or, put another way, how intellectual fields of production and educational fields of reproduction can be analysed within the same conceptual framework.[3]

I shall argue that the concepts of legitimation codes and the epistemic device provide a means of addressing these questions, and that their answers are to be found by thinking in terms of *Knowledge–knower structures*. My basic argument is summarized in the opening motif: for every knowledge structure there is also a knower structure. I elaborate the implications of this claim in two stages. First, I introduce the concepts of knowledge structures and knower structures and show how they can be brought together and their underlying structuring principles analysed. I do so through considering fields of knowledge production, focusing on the example of the famous 'two cultures' debate on relations between science and the humanities. Secondly, I explore how these concepts relate to educational knowledge codes, elaborate on the forms taken by knowledge–knower structures, and show how the concepts can be applied to fields of reproduction, focusing on the example of studies addressing the marginalized position of Music in the English school curriculum.

Knowledge–knower structures in fields of production

A useful way of introducing the notion of knowledge–knower structures is to consider the well-known 'two cultures' debate. This was sparked by C.P. Snow's famous 1959 lecture in which he claimed the intellectual life of western society was being split into 'two polar groups' that 'had almost ceased to communicate at all' with 'between the two a gulf of mutual incomprehension – sometimes . . . hostility and dislike, but most of all lack of understanding'. (Snow 1959: 3, 2, 4). Snow's focus lay beyond the academy, but the 'two cultures' became associated with the humanities and science and the ensuing debate was constructed

as a struggle over status within higher education. Though this picture of two cultures was already well established, the debate was ferocious, bitter, spread widely, and remains a source of contention. Why Snow's lecture sparked such depth of feeling is clear from the ways in which participants portrayed science and the humanities as enjoying contrasting fortunes. On the one hand, what Snow termed 'scientific culture' was portrayed as enjoying a meteoric rise in stature; as one commentator tartly expressed:

> You cannot open a newspaper, let alone the 'quality' journals, without the importance of science and technology being trumpeted at you from the headlines. (Morris 1959: 374)

Feted by and enjoying massive funding from industry and the state, revered by the media and worshipped by the public, by the late 1950s scientists were said to be enjoying unprecedented prestige. In contrast, the humanities were portrayed as embattled, in decline and insecure. For example, an influential collection of essays entitled *Crisis in the Humanities* (Plumb 1964a) included accounts of proclaimed crises within Classics, history, philosophy, Divinity, literary education, sociology, the fine arts, and economics, as well as the humanities in schools. They were said to be unwanted by better quality students, considered irrelevant to a modern economy by industrialists, increasingly excluded from the corridors of power by politicians, no longer considered the repository of culture, and publicly ridiculed as offering little genuine knowledge. One historian, for example, claimed that ninety per cent of his colleagues believed their subject to be 'meaningless in any ultimate sense' (Plumb 1964b: 25).

According to participants, the disciplinary map was undergoing a fundamental shift of power between humanist and scientific cultures in their long-acknowledged struggle for status and resources. Two questions this raises are: what was the basis of their differences, and why was this shift of power occurring? A common contemporary explanation of their differences held that scientists and humanist intellectuals 'speak different languages' (Editorial, *The Listener*, 3 Sept. 1959: p. 344). Using Bernstein's approach would suggest focusing instead on the *underlying structuring principles* of their languages. I shall explore these principles in terms of knowledge structures and then knower structures, before bringing them together to show how an analysis of knowledge–knower structures can shed light on the bases of intellectual fields.

Knowledge structures

Analysing the form taken by knowledge in intellectual fields, Bernstein (1996, 1999) distinguishes first between horizontal discourse (everyday or 'common-sense' knowledge) and vertical discourse (scholarly or professional knowledge), and secondly within vertical discourse between horizontal and hierarchical knowledge structures. The latter exemplify well one aspect of the way the two cultures were portrayed in the debate. Humanist culture was described by proponents as riven by competing claims for status between strongly bounded disciplines. Commentators argued that Classics had served as the basis of a 'common culture' or 'unifying force' (Lee 1955) and their decline had

fragmented a single, organic culture into a series of rival subcultures, with little dialogue between disciplines and no means of adjudicating between competing claims to be a new unifying centre. Humanist culture thereby resembled what Bernstein defines as a *horizontal knowledge structure*:

> a series of specialised languages, each with its own specialised modes of interrogation and specialised criteria . . . with non-comparable principles of description based on different, often opposed, assumptions. (Bernstein 1996: 172–3)

This comprises a series of segmented, strongly bounded languages which, developing Bernstein (1999: 162), can be visually represented as:

$$\text{L1} \mid \text{L2} \mid \text{L3} \mid \text{L4} \mid \text{L5}$$
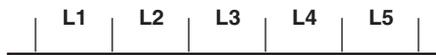
Bernstein further distinguished between horizontal knowledge structures with stronger grammars, 'whose languages have an explicit conceptual syntax capable of "relatively" precise empirical descriptions and/or of generating formal modelling of empirical relations' (1999: 164), such as mathematics, linguistics and economics, and those where these powers are weaker, such as anthropology, cultural studies and sociology. Humanist culture, as characterized by proponents, possessed a weaker grammar – its objects of and procedures for study were defined in ethereal, nebulous, even mystical terms, most famously and widely expressed as immersion in 'the best that has been known and thought in the world'.

In contrast to the segmentation of humanist culture, proponents of scientific culture claimed that scientists comprised an organic community; as Snow put it, they shared 'common attitudes, common standards and patterns of behaviour, common approaches and assumptions' (1959: 9). Unlike the pluralized humanities, science was often referred to in the singular and portrayed as integrated and whole, and though scientists were proliferating new knowledge and creating sub-disciplinary specialisms at a prolific rate, they were said to know how to integrate this knowledge. Scientific culture thereby resembled what Bernstein describes as a *hierarchical knowledge structure*: 'an explicit, coherent, systematically principled and hierarchical organisation of knowledge' which develops through the integration of knowledge at lower levels and across an expanding range of phenomena (1996: 172–3). This Bernstein represents as:
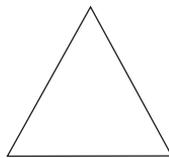
where the point of the pyramid represents the smallest number of axioms or theories and the base represents the maximal number of empirical phenomena explainable by these propositions.

Knower structures

Bernstein's concepts enable the form taken by the knowledge structures characterizing the two cultures to be described. To reach an understanding of their underlying principles, I shall now turn to consider their *knower structures*. These reveal a different picture (see Figure 5.1). Taking humanist culture first, I described how the humanities were portrayed as having been a 'common culture' underpinned by the Classics. However, it was not Classics as skills, techniques and procedures that integrated the humanities into a culture, but rather the dispositions that a classical education was thought to guarantee. The ideal humanist intellectual was a gentleman amateur who pursued (usually) his studies 'for the love of it', viewing them as secondary to a clerisy role of cultivating the cultured sensibility of the 'English gentleman' among students selected on the basis of fitting the character of the university (Maton 2004). The humanities were said to humanize; underpinning such claims was an image of what it meant to be human – the sensibilities, character and personal attributes of an ideal knower. The basis of specialization in humanist culture was thus not knowledge (indeed, disciplinary specialization was strongly devalorized in favour of the all-round 'generalist') but the habitus of an ideal knower, and a classical education served as shorthand for these dispositions. This cultural focus was, moreover, a veneer for a tacit social hierarchy. To be educated in the Classics was (in the main) to have enjoyed a particular social and educational trajectory – typically male, higher social class, private school, 'Oxbridge' – against which other knowers were (tacitly) measured. In other words, humanist culture exhibited what I shall term a *hierarchical knower structure*: a systematically principled and hierarchical organisation of knowers based on the image of an ideal knower which develops through the integration of new knowers at lower levels and across an expanding range of different (innate and/or social) dispositions.[4]

This can be portrayed as a pyramid of knowers (Figure 5.1) with, in the case of humanist culture, the ideal of the 'English gentleman' at its pinnacle. The basis of the recontextualizing principle of humanist culture and its ruler (in both senses of measuring and dominating) was thus an idealized knower.

We can here further distinguish between those hierarchical knower structures with (by way of analogy to Bernstein's terms) stronger 'knower-grammars', where the biological and/or social bases of the ideal knower(s) are articulated relatively explicitly (such as the Great Chain of Being underpinning papal and monarchical hierarchies and, more recently, various standpoint theories), and those with weaker 'knower-grammars', where the biological/social bases of knowers are more tacit and, as Bourdieu would put it (Bourdieu and Passeron 1990), 'misrecognized' as cultural (as was the case for the 'English gentleman').[5]

In terms of knowers, scientific culture was portrayed differently. Where the humanist intellectual's 'ability is a personal matter, which on the whole he does not owe to his advanced training', scientific knowledge was widely said to be 'fairly independent of the personal merits of its possessor' (Gellner 1964: 75–6). Snow, for example, compared the class-bound basis of humanist culture to the democratic and meritocratic nature of scientific culture. He claimed science was

blind to colour, race, creed; it cut 'across other mental patterns, such as those of religion or politics or class' (1959: 9). In short, the basis of specialization in science was knowledge of scientific procedures, regardless of biological or social background. Science was thus portrayed as a *horizontal knower structure*: a series of strongly bounded knowers, each with its own specialized modes of being and acting, with non-comparable habituses or embodied dispositions based on different biological and /or social backgrounds and histories.

In terms of their dispositions, scientists could represent a series of segmented knowers (Figure 5.1), each strongly bounded from one another in terms of their (non-scientific) 'gaze' and capable of being based on very different, even opposed, assumptions.

Exploring knower structures highlights something not immediately obvious from studying knowledge structures alone: as illustrated in Figure 5.1, it is not only hierarchical *knowledge* structures that are characterized by a hierarchy. The location of the 'hierarchical' in an intellectual field could be described as the site or basis of its recontextualizing principle. Hierarchical *knower* structures thereby also possess a systematic principle for selecting and arranging actors and discourses into a hierarchy. That is to say, within intellectual fields actors and discourses are selected and recontextualized into positions within the field on the basis of a principle emanating from the knowledge structure, knower structure or, as I shall discuss, neither or both. In the case of the portrayal of the two cultures, the basis of their recontextualizing principles lay in the knowledge structure for science and in the knower structure for humanities. The difference between intellectual fields may thus be less *whether* they are hierarchical or not and more *where* their hierarchizing principle lies.

|	Humanist culture	Scientific culture
Knowledge structures	(horizontal)	(hierarchical)
Knower structures	(hierarchical)	(horizontal)
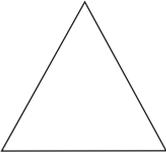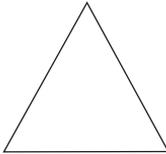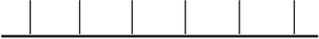
Figure 5.1   The two cultures as knowledge structures and knower structures

Analysing knowledge–knower structures

Having described differences between the two cultures in terms of their knowledge structures and knower structures, we are now in a position to analyse the structuring principles underlying fields of production. If we understand the discursive practices of intellectual fields as *knowledge–knower structures* that specialize actors and discourses in different ways, then the principles underlying these practices can be addressed in terms of their legitimation codes of specialization. This notion is based on the simple idea that actors and discourses are not only positioned in both a structure of knowledge and in a structure of knowers, but also establish different forms of relations to these two structures. One can thereby analytically distinguish between an *epistemic relation* (ER) to the knowledge structure and a *social relation* (SR) to the knower structure. Each of these relations can exhibit relatively stronger (+) or weaker (−) classification and framing. Varying their strengths for each relation independently generates four principal codes: ER+/−, SR+/−, where 'ER+', for example, condenses 'ER(+C, +F)'. In other words, actors may emphasize the knowledge structure, the knower structure, neither or both as the basis of distinctiveness, authority and status; conversely, their identity, relations and consciousness are shaped in different ways by these two structures. These legitimation codes represent different 'settings' of the epistemic device, the means whereby intellectual and educational fields are maintained, reproduced, transformed and changed (Moore and Maton 2001). Whoever controls the epistemic device possesses the means to set the shape of the field in their favour, making what characterizes their own practices (in terms of legitimation codes) the basis of status and achievement in the field. This brief and somewhat formal definition can be fleshed out by considering the different ways in which the two cultures established relations to their knowledge–knower structures.

Perhaps the most controversial claim Snow made in his lecture was that science was the basis of a *true* 'common culture': 'the scientific culture really is a culture . . . Without thinking about it, they respond alike. That is what a culture means' (1959: 9, 10). The basis of this culture was scientists' 'sense of loyalty to an abstraction called "knowledge"' (Mackerness 1960: 15), commitment to 'truth' (Bronowski, 1961) and allegiance to their discipline (Pakenham, 1963), which specialized their identity and claims to insight. In other words, for science the epistemic relation to its knowledge structure was central to the field; this structure strongly classifies and frames actors and discourses within the field (ER+), while the social relation to its knower structure was less significant (SR−): what is defined as a *knowledge code* (see Figure 5.2).

In the case of humanist culture, knowledge itself mattered a lot less; possession of procedures and skills was relatively unimportant in defining identity and achievement, so the epistemic relation to its knowledge structure was weakly classified and framed (ER−). Instead, the basis of specialization was possessing the right kind of dispositions or character. In other words, the field strongly classifies and frames knowers (SR+); for the humanities, the social relation to its knower structure was the key to the field – a *knower code*. Comparing the two cultures in Figure 5.1 shows it is that which is hierarchical (the pyramids) that

	Humanist culture	Scientific culture
Epistemic relation	–C, –F	**+C, +F**
Social relation	**+C, +F**	–C, –F
Legitimation code	*knower code* (ER–, SR+)	*knowledge code* (ER+, SR–)

Figure 5.2   Legitimation codes of specialization for the two cultures

Note: Classification (C) refers to relative strength of boundaries *between* categories or contexts; framing (F) refers to relative strength of control *within* these categories or contexts; ER refers to epistemic relation and SR to social relation; '+/–' indicates relatively stronger/weaker. The notation for legitimation codes condenses, for example, 'ER (+/–C, +/–F)' to become 'ER+/–'.

strongly classifies and frames actors and discourses within the intellectual field (bold type in Figure 5.2): the epistemic relation to the knowledge structure for scientific culture and the social relation to the knower structure for humanist culture.

Having described the two cultures in terms of their knowledge structures and knower structures and analysed the role they play in specializing insight and identity in terms of legitimation codes, we can now return to the two questions raised earlier: the basis of difference between the two cultures and reasons for the shift of power between them. First, the debate can be redescribed as a struggle for control of the epistemic device between intellectual fields characterized by contrasting legitimation codes. These different codes characterize the kind of resources actors bring to the struggle. This is clearly illustrated by the two most famous protagonists in the debate: C.P. Snow and F.R. Leavis. Snow repeatedly emphasized:

> On these issues [of relations between the two cultures] our personalities mean nothing: but the issues themselves mean a great deal . . . The important thing is to take the personalities, so far as we are able, out of the discussion. (1964: 56, 59)

In contrast, Leavis was concerned with Snow as a legitimate knower:

> It is not any challenge he thinks of himself as uttering, but the challenge he *is*, that demands our attention. (1962: 10–11)

For humanists, as Leavis put it, a 'judgement is personal or it is nothing; you cannot take over someone else's' (1962: 28). This represents a struggle between 'what you know' (knowledge code) and 'who you are' (knower code) as measures of status, identity and insight.

Given this code clash it is little wonder that between the two cultures was said to lie, as Snow put it, 'a gulf of mutual incomprehension'. Leavis could be speaking for both sides when he exclaimed: 'He doesn't know what he means, and doesn't know he doesn't know' (1962: 10). Moreover, the rise of science and the proclaimed crisis in humanities were intimately interrelated: rising status for science threatened to change the basis of the distribution of resources and status within the field and relegate humanists to second-class citizens. If scientists controlled the epistemic device, then the field would tilt in their favour by making a knowledge code the basis of achievement.

Secondly, the difference in codes also suggests reasons for why this shift in power seemed imminent. One reason lies in the different relationships the codes establish between their knowledge formations and horizontal discourse (or everyday knowledge). As discussed, science was portrayed as specialized by its language rather than its speakers: who was speaking was said to be less important than what they were talking about and how. The mathematization of science from the seventeenth century onwards had made this language progressively different to commonsense understanding, making *discursive distinction* from the contents and form of horizontal discourse the basis of the specialization of science. The scientist B.C. Brookes, for example, claimed 'it will never be possible' to translate between the two and that 'the learning of science is the learning of a *first*, not a foreign, language' that needed 'lengthy and ruthless indoctrination' (1959a: 502–21, 1959b: 783–4). Measured in terms of its knowledge code, science was thereby becoming ever more specialized in relation to horizontal discourse. In contrast, the knower code basis of identity and status in the humanities made *dispositional distinction* the basis of status; i.e. distinction between the dispositions of humanist knowers and those of the laity, rather than the possession of specialized knowledge and skills.

In these terms the position of humanists was being undermined on two fronts. First, expansion was bringing more varied knowers into higher education presenting challenges to its hierarchical knower structure (and so its basis of specialization) under wider social conditions where belief in the integrating knower was waning; by the 1960s the 'English gentleman' was becoming viewed as outdated in what was being portrayed as an emergent 'meritocratic' society. Second, when judged by the discursive distinction of science's knowledge code, the humanities were becoming less special. The extension of literacy under educational expansion was giving birth to 'the articulate society' where everyone felt entitled to speak and in which the 'clerk is a nobody not merely because he is not a scientist, but also because in the developed societies *everyone* is now a clerk' (Gellner 1964: 78). The humanities did not involve learning specialized procedures – there 'is no enormous discontinuity, a yawning gap, bridgeable only by prolonged training'; instead one could pick up a discipline 'simply by soaking in the ambience' (Gellner 1964: 70) – and so humanists were vulnerable to being viewed as speaking little more than a jargon-ridden form of everyday language. In short, what threatened humanist culture was the entry of new knowers into a field of higher education increasingly dominated by a knowledge code.

To recap, thus far I have addressed fields of knowledge production and the

first question I raised at the outset of the chapter of their generative principles. Alongside Bernstein's 'knowledge structures' I introduced the notion of 'knower structures' to more fully describe differences between intellectual fields. I argued that analysing these knowledge–knower structures in terms of legitimation codes of specialization provides a means of conceptualizing their underlying structuring principles. I also briefly illustrated the kinds of insights this can provide into the form taken by different intellectual fields. The second question raised concerned relations between the concepts of knowledge structures and educational knowledge codes, or how Bernstein's languages of description of fields of production and fields of reproduction can be integrated. It is, therefore, to educational fields of reproduction I now turn.

Knowledge–knower structures in fields of reproduction

In his paper outlining the concepts of educational knowledge codes, Bernstein (1971, 1977) identifies two principal modalities as dominating educational systems: a collection code of relatively stronger classification and stronger framing, and an integrated code of weaker classification and weaker framing. These code modalities, he argues, help shape educational identity and consciousness in different ways. A collection code emphasizes educational knowledge, producing what he calls a 'clear-cut and bounded' educational identity based on one's academic subject (+C, +F). Specialization is thus based on the possession of knowledge; it 'makes of educational knowledge something not ordinary or mundane, but something esoteric, which gives a special significance to those who possess it' (1977: 99). In contrast, under integrated codes the role of educational knowledge is weakened and one's educational identity is (on this basis) less certain and must be negotiated constantly (–C, –F). This analysis of educational knowledge codes can be understood as homologous to that provided by knowledge structures such that one can say Bernstein is analysing the way *educational knowledge structures* (such as a curriculum) specialize actors and discursive practices.[6] In these terms, Bernstein's analysis is coding the epistemic relation of educational knowledge (ER+ and ER– for collection and integrated codes, respectively).

   For every educational knowledge structure there is also an educational knower structure. So, in addition to Bernstein's analysis, we can also code the role in specialization of the social relation to the *educational knower structure*. This strength depends on the particular empirical case being examined, but for simplicity of illustration one can say it is likely that under collection codes the dispositions of knowers play a lesser role (–C, –F). When emphasizing the possession and transmission of their academic subject knowledge as the basis of professional identity and practice, teachers are likely to *comparatively* downplay the significance of their (and their pupils') biological and/or social dispositions. In contrast, under integrated codes there is more space for knowers' dispositions to play a greater role in identity and consciousness (+C, +F); for example, more emphasis may be given to the capacity to develop the dispositions of the 'whole child'. These classification and framing strengths, which

invert those normally associated with collection and integrated codes, refer to the social relation to educational knower structures (in these cases, SR– and SR+). Bringing the above together to consider *educational knowledge–knower structures*, the examples represent a knowledge code (ER+, SR–) and a knower code (ER–, SR+), respectively.

Thus far in this chapter I have focused on instances where coding orientations for the epistemic relation to (educational) knowledge structures and the social relation to (educational) knower structures are inverted: ER+, SR– (knowledge code) and ER–, SR+ (knower code). However, this is not necessarily always the case. The strengths of these two relations may vary independently of each other; knowledge structures and knower structures can independently play a stronger or weaker role in specializing actors and discourses. Varying their relative strengths generates four principal legitimation codes of specialization, as represented by Figure 5.3. As I shall show when using the concepts, this is not a set of dichotomized or binary ideal types: strengths for relations are *relative* and represent a continuum; the four legitimation codes are akin to naming directions created by points on a compass to help orientate oneself within the terrain.
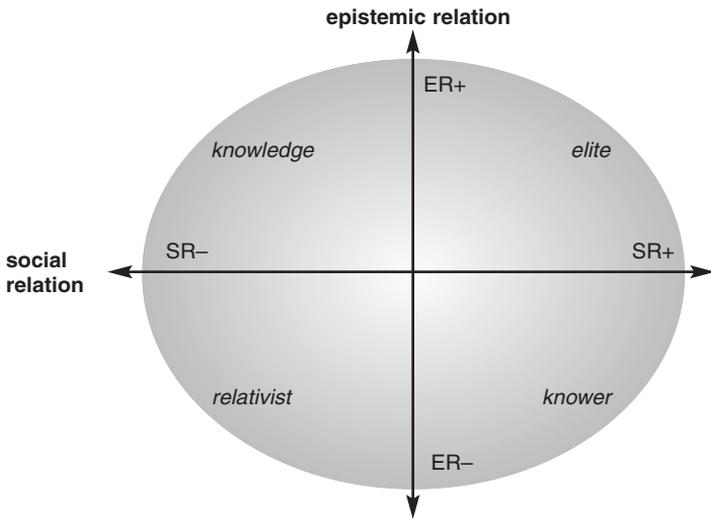

Figure 5.3   Legitimation codes of specialization

Of the four legitimation codes highlighted in Figure 5.3, I have already discussed:

- a *knowledge code* (ER+, SR–), where possession of knowledge (procedures, skills, techniques) is emphasized as the basis of specialization; and
- a *knower code* (ER–, SR+), where the dispositions or 'gaze' of knowers are emphasized, whether these are described as innate or natural (such as notions of genius), inculcated (such as an artistic or literary sensibility

cultivated through prolonged immersion in great works) or resulting from the knower's social position (such as standpoint theory based on class, race, gender, sexuality, religion, age, and so forth).

In addition one can also highlight two further coding orientations:

• a *relativist code* (ER–, SR–), where legitimate identity and insight is ostensibly determined by neither knowledge nor dispositions – thoroughgoing relativism; and
• an *élite code* (ER+, SR+), where legitimacy is based not only on possessing specialist knowledge but also being the right kind of knower.[7]

The élite code is exemplified in intellectual fields by science during the early Enlightenment period, when it was not enough to follow scientific procedures to be considered a legitimate scientist, but one also had to be a gentleman (I discuss an élite code in educational fields, below). In short, to think in terms of educational knowledge–knower structures is to ask what makes actors, discourses and practices special or legitimate: knowledge (knowledge code), dispositions (knower code), neither (relativist code) or both (élite code)? To illustrate how these concepts can be used to investigate educational fields I shall briefly discuss some empirical research that is addressing the problematic position of music in the English school curriculum.

School music: an élite code qualification
In the current English school system there are a number of Key Stages (henceforth 'KS') at which children are tested:

• KS1: school years 1–2 (ages 5–7)
• KS2: years 3–6 (ages 7–11)
• KS3: years 7–9 (ages 11–14)
• KS4: years 10–11 (ages 14–16)

Pupils study a compulsory curriculum of ten academic subjects for KS1–3. At this point they can choose, from a wider range of available subjects, which ones they wish to study for GCSE qualifications (comprising a combination of coursework and examination) completed by the end of year 11. Music is popular among pupils up to the end of KS3 (Lamont *et al.* 2003), but there is very low uptake for GCSE qualifications: approximately 7 per cent of pupils choose to take GCSE Music, compared to 38 per cent for History, 38 per cent for Art and Design, and 15 per cent for Drama. This unpopularity has not gone unnoticed; in July 2004 a 'Music Manifesto' was launched by the British government, aiming to champion the status of the subject and encourage young people to remain involved in music making.

However, the question of why music is so comparatively unpopular remains unanswered. Most studies of music focus on the learning and playing of musical instruments in formal and informal settings *outside* school, and music in the curriculum is typically described as simply 'out of touch' or perceived as irrelevant

by most children (e.g. Green 2001; Sloboda 2001). Studies of school music itself, including the few studies addressing the issue of low uptake at GCSE level, typically offer speculation or ad hoc, piecemeal and largely descriptive accounts of best practice in teaching (e.g. Bray 2000; Harland *et al.* 2000; see Lamont 2004; QCA 2004). This question of why the GCSE qualification in music is so unpopular forms the starting point for a collaborative, interdisciplinary project (with Alexandra Lamont, a music psychologist at Keele University, UK) using the concepts of legitimation codes to investigate the ways achievement and educational identities in music are constructed. Our developing hypothesis is that GCSE Music represents an élite code and that this code plays a role in its low take-up rate. To illustrate how these concepts can be used to analyse educational fields I shall selectively report on the early stages of this research, focusing on three pilot studies that address:

1. definitions of achievement in National Curriculum documents and syllabi;
2. school-pupils' perceptions of self-ability in, the significance of, and the basis of achievement in a range of academic subjects including music; and
3. perceptions of university students of significance of and success in various school subjects.[8]

1. Curriculum documents

The first study addresses levels of achievement expected of pupils at different Key Stages expressed in National Curriculum attainment targets and programmes of study (for KS1–3), and in the GCSE syllabi of major examination boards. The documents were analysed in terms of whether they emphasized the assessment of: skills, procedures, techniques and knowledge or dispositions of the learner, such as aptitude, attitude and personal expression. This analysis suggests the official requirements for music embody different legitimation codes for different stages of the curriculum. In KS1–2 the National Curriculum defines achievement in terms of the capacity of pupils to express themselves rather than demonstrate skills or knowledge. At the end of KS2, for example, pupils are expected to be able to 'develop their own compositions . . . with increasing personal involvement, independence and creativity' (DfES/QCA 1999: 18): a knower code. At KS3 (ages 11–14) attainment targets downplay aptitude, attitude and personal engagement in favour of the demonstration of musical skills and knowledge; pupils should show an 'increasing ability to discriminate, think critically and make connections between different areas of knowledge' (DfES/QCA 1999: 20): a knowledge code. At GCSE level the code changes again. Examination syllabi for GCSE Music require pupils to demonstrate *both* their capacity for personal expression and ability with technical skills. The syllabus of the examination board Edexcel, for example, includes a solo musical performance assessed for being both 'accurate and fluent' and 'an expressive performance that is generally stylish', with equal emphasis given to 'Accuracy' and 'Interpretation' (Edexcel 2002: 21, 22): an élite code. This suggests one possible reason for low uptake may be a shift in legitimation code underlying prescribed definitions of achievement in music: from knowledge code at KS3 to élite code at GCSE.

2. Perceptions of pupils

Having analysed the National Curriculum, the next pilot study focused on whether these definitions of achievement are reflected in the perceptions of pupils. A questionnaire was completed by 912 pupils aged 8–14 at four comprehensive schools of average size and achievement rating. The survey included three main questions about music, the core curriculum subjects of English, mathematics and science (which are compulsory subjects for study in KS4), and history (for comparison). For each subject pupils were asked to rate the importance of being good at the subject, rate their self-ability, and describe the basis of success at the subject. I shall focus on the third question here: 'What do you think makes someone good at [the subject]?'. Respondents were offered a forced choice of one of four options, representing our first attempt at capturing relativist, knowledge, knower and élite codes, respectively:

    (A) Anyone can do it, nothing special is needed;
    (B) You need to learn special skills or knowledge;
    (C) You need to have 'natural ability' or a 'feel' for it;
    (D) Only people with 'natural ability' can learn the special skills needed.

Analysis of the data for all pupils across all years suggests the basis of success is viewed differently for science and the humanities: modal responses were knowledge option B for science, maths and music, and relativist option A for English (marginally, over B) and history. (As I discuss below, the latter two may result from our wording of options C and D.) However, this global picture conceals significant differences in results for different subjects and different pupil ages. One such result of interest here is that among pupils who have chosen their GCSE subjects in year 9, Music was far more often characterized as embodying an élite code than other subjects: 19 per cent chose option D for music, compared to a maximum of 3.6 per cent for the other subjects. This figure almost doubles to 35 per cent among those pupils who chose to study music at GCSE. I shall return to consider the implications of these results shortly.

3. Perceptions of university entrants on school subjects

The third pilot study explored, through surveys and focus groups, the perceptions on school subjects of older students who have already made a number of subject choices and are starting their university studies. The survey I shall discuss comprised 93 new entrants, first-year students at a middle-ranking English university. This included questions about the same three issues as outlined above for the same four subjects, as well as psychology (in which all the students were taking at least a module). For this study we redesigned the question of the basis of success in academic subjects for three main reasons. First, our previous dispositional option C offered only 'natural ability' or 'feel', neglecting the notion of cultivated sensibilities or refined judgement, such as are often emphasized in literary and art criticism (which may account for the previous low response rate for options including 'natural ability'). Secondly, the phrasing of the élite option D made 'natural ability' the basis for access to 'special skills' rather than bringing together *both* dispositions and knowledge.

Thirdly, the pupil survey was our first attempt at using coding concepts in quantitative research; our choice of a forced-choice design began from the four code modalities rather than from their basis in the strengths of epistemic and social relations. Such a categorical scale design suits ideal typical groupings, whereas the theory emphasizes the *relative* strengths of the two relations in determining coding orientations, requiring a more continuous scaling approach. To address these issues, 'taste, judgement or feel' was added as an option alongside 'natural talent' (separately because though both are dispositional they are often opposed in well-known debates over, for example, 'nature versus nurture'), and the forced-choice design was replaced with a sliding scale of importance (see Figure 5.4). The new design thus asked respondents to rate the significance of a subject's knowledge structure ('skills') and of its knower structure ('talent' and 'taste').

In your opinion, how important are these things for being good at [the subject]?

	Not at all	Not very	Quite	Very
Skills, techniques and specialist knowledge	[ ]	[ ]	[ ]	[ ]
Natural-born talent	[ ]	[ ]	[ ]	[ ]
Taste, judgement or a developed 'feel' for it	[ ]	[ ]	[ ]	[ ]

Figure 5.4   University students' survey; question of basis of achievement

The theory's emphasis on relative strengths was also reflected by the analysis. The ratings were coded numerically as 1–4 and mean scores calculated across all subjects for the 'skills' scale and for the 'talent' and 'taste' scales *taken together*, to give baseline scores of significance for the epistemic and social relations, respectively. The scores of each subject for these two relations were then compared to these two overall mean scores. From this analysis (see Figure 5.5):

•   natural science (and, to a lesser extent, psychology) scored higher for 'skills' (stronger epistemic relation) and lower for 'talent / taste' (weaker social relation) – a knowledge code;
•   for English these results were reversed, with the epistemic relation being weaker and the social relation being stronger – a knower code;
•   maths was average for both, a result requiring further investigation;
•   history scored lower for both skills and 'talent / taste' – a relativist code; and
•   music scored higher for both – an élite code.

In other words, comparative to other subjects one requires *both* skills *and* taste or talent to succeed in music.
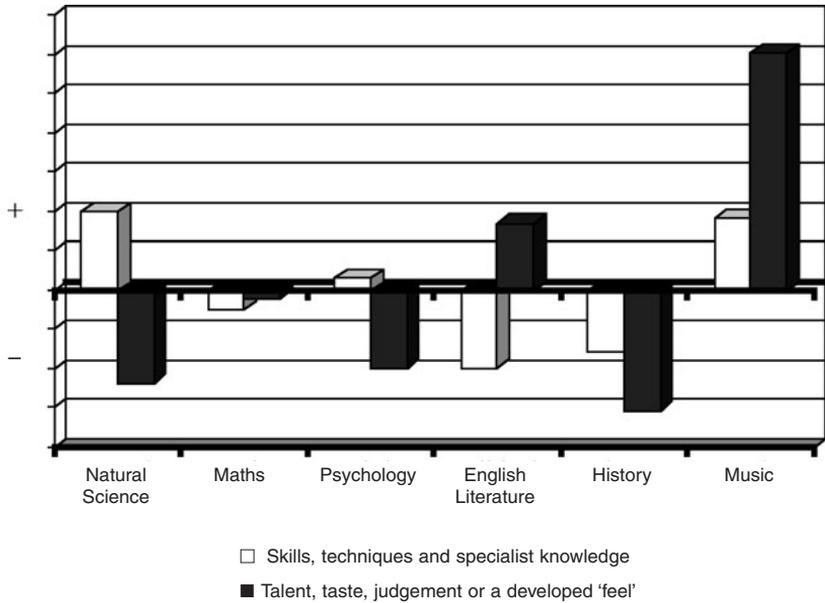
Figure 5.5   University students' perceptions of basis of achievement

We also conducted a series of focus groups with members of the same population. The above coding orientations were reflected in how participants discussed achievement. Group discussions of science and English literature, for example, illustrate their respective knowledge code and knower code. Participants tended to state that for English the knower is the source of a legitimate gaze which generates insights, whereas in science it is educational knowledge that forms the basis of insight and identity; for example:

> Moderator: *What does it take to be good at English?*
> Participant 1: I learnt to have my own opinion and back it up with my own evidence but then use evidence from other people that have the same opinion as me, so you're still using other opinions but you're finding them after you've made your own.
> Moderator: *Is that different from science or maths?*
> P2: Yeah, definitely. You can't really say 'Well, *my* theory of evolution is . . .' It's not like you can make up your own theory.
> P1: You're given theories and you choose one rather than having your own opinion and then finding someone who agrees with you.

The élite coding orientation of music was reflected in how participants would often shift between talent or natural ability, developing skills and such issues as portraying emotion when discussing achievement in the subject:

P3: It's more talent-based, you have to have a natural ability.

P4: You can't just throw anyone in there and teach them, they have to have that ability before they start. Everyone can learn the basics but to get to the top . . .

P3: Music takes lots of practice . . . you have to practise every day to get better at it.

P5: You can never say you've done all the work for it. You can always do a bit better. Whereas in science if you learn it there is a point where you've learned everything that you need to know.

P3: Even someone with natural talent that's very good at music still has to practise.

P5: It's talent and skills and hard work.

P3: You need to be able to portray emotion too.

Implications of music's élite code

If Music is portrayed as embodying an élite code in curriculum documents and the perceptions of school-pupils and university entrants, the question is how that coding orientation might relate to its unpopularity at GCSE level. The above discussion summarizes only part of the analysis of the data, which includes age differences, social variables such as gender, differences between 'taste' and 'talent', rating of self-ability and the significance of different results. The research is also ongoing (for example, the redesigned survey is being used within an intervention study in English secondary schools). In addition, further studies are required for a fuller picture, including analysis of: the social distribution of legitimation codes among different groups of pupils; constructions of achievement within the intellectual field of music education research; the formulation of curriculum in the field of recontextualization; and the ways school music is taught at different Key Stages. However, the results I have discussed are themselves suggestive in several ways. First, the shift to élite code at GCSE level is not simply a code shift (as happens between KS2 and KS3, from knower code to knowledge code) but to one that is doubly demanding: pupils must both demonstrate possession of musical knowledge and skills, and express musical dispositions. In other words, not only are the rules of the game changed, but it becomes harder to play – an élite code has two hierarchies (one of which, the knower structure, it may not be possible to climb). Second, this may make music an unenticing option, particularly if one considers its perceived significance. When asked to rate the importance of being good at a subject, music was the least important subject for both school-pupils and university entrants. Its élite code thereby does not seem to be reflected by status; as one focus group described it:

P6: I don't think if you were going to apply to be a doctor they'd say, 'Have you got your grade 9 piano' or whatever.

P7: I think if I told people I was doing a music degree everyone would be like 'What's the point? Waste of time!' kind of thing.

P8: Yeah, everyone thinks doing music at university is learning to play 'Three Blind Mice' on the recorder.

Lastly, if music's élite code is not widely distributed socially and the keys to the code not made visible in pedagogic practices, then school qualifications are likely to remain restricted.

The central point here, however, is less the basis of music's position and more the issue of how analysing knowledge–knower structures in terms of legitimation codes offers fruitful ways forward for empirical research into educational fields. It reveals not only contexts exhibiting stronger *or* weaker classification and framing, but also those with both; such contexts may appear contradictory or confusing if one considers educational knowledge structures on their own. Élite schools, for example, may operate with selection criteria based not only on qualifications but also on issues of character and disposition. Integrating knower structures into the analysis may show that such contexts exhibit an élite legitimation code. By being anchored on the concepts of classification and framing, the strong external language of description of legitimation code theory also enables both qualitative and quantitative analysis of the underlying principles structuring curriculum guidelines, teaching practices, pupils' perceptions, school organization, and so forth in a manner enabling systematic comparisons within and between these contexts, something currently lacking from existing research on music in the curriculum.

Conclusion

In this chapter I have argued that one can analytically distinguish two message systems within the discursive practices of intellectual and educational fields. The first is that addressed by Bernstein's conceptualization of fields of production in terms of knowledge structures, and fields of reproduction in terms of educational knowledge codes. These (educational) knowledge structures announce how knowledge should be created, distributed, recontextualized and evaluated. The second is to be found in their knower structures. I introduced the notions of hierarchical knower structures and horizontal knower structures with stronger and weaker 'knower-grammars'; these proclaim how legitimate knowers are created, distributed, recontextualized and evaluated. This is, though, an *analytical* distinction. To understand fully intellectual and educational fields one must, I argued, bring these together to think in terms of *knowledge–knower structures*. Together they define the basis of specialization of actors and discourses within fields and so help shape relation, identity and consciousness.

These concepts enable two questions raised by Bernstein's ideas to be addressed. First, I showed how analysing knowledge–knower structures in terms of legitimation codes and the epistemic device provides a means of exploring the structuring principles underlying intellectual fields. This also highlights new issues of interest; for example, it recasts the question of hierarchies in intellectual fields from 'whether' to 'where' (in their knowledge structure, knower structure, neither or both) – horizontal knowledge structures may be characterized by hierarchical knower structures. Doing so further clarifies the recontextualizing principles of intellectual fields – this principle may be not only discursively based but also dispositionally based, with implications for the structure and develop-

ment of the field. The notion of knowledge–knower structures also expands the reach of the analysis, subsuming and integrating (rather than displacing) the existing conceptualizations of knowledge structures and educational knowledge codes. Integrating the analysis of knower structures with that of knowledge structures within the concept of legitimation code not only enables their different insights to be brought together but also enables us to generatively conceptualize new possibilities, such as relativist and élite codes. Secondly, having considered intellectual fields (with the example of the 'two cultures' debate) I illustrated how these concepts can also be applied to educational fields by discussing studies into school music. Preliminary results from these studies suggest that the unpopularity of school qualifications in music may be related to its élite code. The concepts thereby provide a means of bringing analyses of fields of intellectual production and of educational reproduction within the same framework. The use of these concepts is at a relatively early stage; as more empirical questions are addressed, their tacit potential and limitations will become increasingly evident, necessitating further development of the theory and opening up the next chapter of the story.

References

Bernstein, B. (1971), 'On the classification and framing of educational knowledge', in M.F.D. Young (ed.), *Knowledge and Control*. London: Collier Macmillan.

Bernstein, B. (1977), *Class, Codes and Control, Volume III: Towards a theory of educational transmissions*. London: Routledge & Kegan Paul.

Bernstein, B. (1990), *Class, Codes and Control, Volume IV: The structuring of pedagogic discourse*. London: Routledge.

Bernstein, B. (1996), *Pedagogy, Symbolic Control and Identity: Theory, research, critique*. London: Taylor & Francis.

Bernstein, B. (1999), 'Vertical and horizontal discourse: An essay', in *British Journal of Sociology of Education* 20(2), pp. 157–73.

Bourdieu, P. and Passeron, J-C. (1990), *Reproduction in Education, Society and Culture*. London: Sage.

Bray, D. (2000), 'An examination of GCSE music uptake rates', in *British Journal of Music Education* 17(1), pp. 79–89.

Bronowski, J. (1961), *Science and Human Values*. London: Hutchinson.

Brookes, B.C. (1959a), 'The difficulty of interpreting science', in *The Listener* LXII, pp. 519–21.

Brookes, B.C. (1959b), Letter to the editor, in *The Listener* LXII, pp. 783–4.

DfES/QCA [Department for Education and Science/Qualifications & Curriculum Authority] (1999), *The National Curriculum for England: Music*. London: HMSO.

Doherty, C. (2004), 'Student subsidy of the internationalized curriculum: Knowing, voicing and producing the Other'. Paper presented at *Reclaiming Knowledge: Registers of discourse in the community and school* conference, University of Sydney, December.

Edexcel (2002), *Specification: Edexcel Advanced Subsidiary GCE in Music (8501) and Advanced GCE in Music (9501)*. London: Edexcel Foundation.

Gellner, E. (1964), 'The crisis in the humanities and the mainstream of philosophy', in Plumb, J.H. (ed.), *Crisis in the Humanities*. Harmondsworth: Penguin.

Green, L. (2001), *How Popular Musicians Learn: A way ahead for music education*. Burlington: Ashgate.

Harland, J. *et al.* (2000), *Arts Education in Secondary Schools: Effects and Effectiveness.* Slough: National Foundation for Educational Research.

Hickox, M. and Moore, R. (1995), 'Liberal-humanist education: The vocationalist challenge', in *Curriculum Studies* 3(1), pp. 45–59.

Hood, S. and Maton, K. (2005), 'The languages of disciplinarity: Knowledge, knowers and recontextualisation'. Paper presented at *Discourses of Hope: International Systemic Functional Congress 32*, University of Sydney, July.

Lamont, A. (2004), What are the possible reasons for the low take-up of music GCSE? *Music in Key Stage 4: QCA Music Development Group* working paper.

Lamont, A., Hargreaves, D.J., Marshall, N.A. and Tarrant, M. (2003), 'Young people's music in and out of school', in *British Journal of Music Education* 20(3), pp. 1–13.

Leavis, F.R. (1962), *Two Cultures: The significance of C. P. Snow.* London: Chatto & Windus.

Lee, H.D.P. (1955), 'The position of Classics in schools', in *Universities Quarterly* 9(2), pp. 135–44.

Mackerness, E.D. (1960), 'Ignorant armies', in *The Universities Review* 33(1), pp. 14–17.

Maton, K. (2000a), 'Recovering pedagogic discourse: A Bernsteinian approach to the sociology of educational knowledge', in *Linguistics and Education* 11(1), pp. 79–98.

Maton, K. (2000b), 'Languages of legitimation: The structuring significance for intellectual fields of strategic knowledge claims', in *British Journal of Sociology of Education* 21(2), pp. 147–67.

Maton, K. (2002), 'Popes, kings and cultural studies: Placing the commitment to non-disciplinarity in historical context', in S. Herbrechter (ed.), *Cultural Studies: Interdisciplinarity and translation.* Amsterdam: Rodopi.

Maton, K. (2004), 'The wrong kind of knower: Education, expansion and the epistemic device', in Muller, J. Davies, B. and Morais, A. (eds), *Reading Bernstein, Researching Bernstein.* London: RoutledgeFalmer.

Maton, K. (2006), 'On knowledge structures and knower structures', in Moore, R., Arnot, M., Beck, J. and Daniels, H. (eds), *Knowledge, Power and Educational Reform: Applying the sociology of Basil Bernstein.* London: Routledge.

Moore, R. (2004), *Education and Society: Issues and explanations in the sociology of education.* Cambridge: Polity Press.

Moore, R. and Maton, K. (2001), 'Founding the sociology of knowledge: Basil Bernstein, intellectual fields and the epistemic device', in Morais, A. Neves, I., Davies, B. and Daniels, H. (eds), *Towards a Sociology of Pedagogy: The contribution of Basil Bernstein to research.* New York: Peter Lang.

Moore, R. and Muller, J. (2002), 'The growth of knowledge and the discursive gap', in *British Journal of Sociology of Education* 23(4), pp. 627–38.

Morris, M. (1959), 'The two cultures and the scientific revolution', in *Marxism Today* 3(12), pp. 374–80.

Muller, J. (2004), 'On the shoulders of giants: A digression on knowledge, curriculum, and finally, the teacher'. Paper presented at the *Third International Basil Bernstein Symposium*, University of Cambridge, July.

Pakenham, T. (1963), 'The study of the university teacher: The Gulbenkian Educational Discussion 1962', in *Universities Quarterly* 17(2), pp. 149–64.

Plumb, J.H. (ed.) (1964a), *Crisis in the Humanities.* Harmondsworth: Penguin.

Plumb, J.H. (1964b), 'The historian's dilemma', in J.H. Plumb (ed.), *Crisis in the Humanities.* Harmondsworth: Penguin.

QCA [Qualifications and Curriculum Authority] (2004), *Music in Key Stage 4: Developing qualifications within the vision of a holistic and progressive music education for all.* QCA Music Development Working Paper.

Singh, P. (2002), 'Pedagogising knowledge: Bernstein's theory of the pedagogic device', in *British Journal of Sociology of Education* 23(4), pp. 571–82.

Sloboda, J.A. (2001), 'Conference Keynote: Emotion, Functionality and the Everyday Experience of Music', in *Music Education Research* 3(2), pp. 243–53.

Snow, C.P. (1959), *The Two Cultures and the Scientific Revolution*. Cambridge: Cambridge University Press.

Snow, C.P. (1964), *The Two Cultures and a Second Look*. Cambridge: Cambridge University Press.

Wheelahan, L. (2005), 'Comparing realist and rationalist defences of propositional knowledge in the curriculum'. Paper presented at *Engaging Realist Alternatives: IACR Conference*, Sydney, July.

Notes

1   This paper expands on Maton (2006), in particular elaborating on grammars of knower structures and developing the account of knowledge–knower structures in educational fields.

2   See Doherty (2004), Hood and Maton (2005), Lamont (2004), Maton (2004) and Wheelahan (2005) for examples of educational studies using legitimation codes.

3   This is not the same as asking how specific kinds of knowledge structures and curriculum/pedagogic structures are related; for a perceptive account exploring this issue, see Muller (2004).

4   Integration of new knowers may be through resocialization (such as that attempted by the creation of new campus universities as resocializing institutions in 1960s English higher education; Maton 2004) or through a mixture of indoctrination and coercion (such as underlay medieval monarchical and papal hierarchies; Maton 2002). Educational expansion has typically accommodated new knowers through offering a choice of resocialization as the condition of entry into higher status institutional and disciplinary positions, or relegation into lower levels of these status hierarchies (cf. Hickox and Moore 1995). There may be more than one idealized knower and pyramid of knowers in an intellectual field characterized by a hierarchical knower structure.

5   This has effects for the possibility and means of transmission/acquisition of the legitimate 'gaze' conferred by knower status. In the case of stronger 'knower-grammars' acquisition may be explicitly restricted to those already possessing knower status and transmission may focus on attempting to raise to consciousness what is proclaimed to be a pre-existing gaze; with weaker 'knower-grammars', the possibility of successful acquisition of the legitimate gaze is claimed to be more widely available and transmission may take the form of attempting to resocialize potential knowers, restructuring their habituses.

6   I should emphasize that Bernstein's concepts of knowledge structures refer to *intellectual* fields of production and not educational fields – they are not describing curriculum or pedagogic structures. I use 'educational knowledge structures' by way of analogy as a step towards offering a means of integrating analyses of intellectual and educational fields.

7   One can expand the language of description to provide a more subtle theorization by considering differing strengths of classification and framing. This generates sixteen modalities: ER(+/–C, +/–F), SR(+/–C, +/–F). Here I restrict discussion of coding orientations to where classification and framing strengths are *both* stronger or weaker for conceptual economy and because Bernstein's theorization and applications of the concepts suggest they are the most commonly found orientations.

8   My principal focus is illustrating the application of the concepts rather than the music question *per se*. I thus discuss only selected aspects of the studies. We shall report the results of this ongoing research and their implications for school music more fully in future publications.

9   It is tempting to account for the low uptake rate of music in terms of value in the occupational marketplace alone; however, this would not easily account for the uptake rate for drama being double that of music.

Acknowledgements