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Ivinson, Gabrielle (2018) Re-imaging Bernstein's restricted codes. *European Educational Research Journal*, 17 (4). pp. 539-554. ISSN 1474-9041

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Version: Accepted Version

Publisher: SAGE Publications

DOI: <https://doi.org/10.1177/1474904117745274>

Please cite the published version

<https://e-space.mmu.ac.uk>

Re-imagining Bernstein's restricted codes

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Abstract

While accepting that the concept of restricted code has a troubled history that resulted in Bernstein being associated with deficit models of working-class life, it is argued that the concept should be re-imagined rather than abandoned. Bernstein's early work refers to restricted code as a form of condensed, shorthand established through familiarity that was not tied to class *per se*. In Volume 2 of *Class, Codes and Control* social class was an independent variable in the research designs and coding only that which could be explicitly spoken, produced working class groups as inferior in comparison to middle class groups: Bernstein's disquiet can be sensed in many places across his work where he explicitly renounced a deficit model. Methodological and theoretical work on embodied knowledge is used here to explicate the more-than, codeable features of restricted codes. An illustration from studies in ex-coalmining, working-class communities is used to explore what is missed in conventional approaches to data coding. Other studies in examining communities reveal the intergenerational transmission of rich resources that were vital for community survival. Re-imagining restricted codes as relational assemblages recognises the value of the dynamic, creative and intergenerational features of localised, embodied knowledge.

Keywords

Bernstein, embodied knowledge, relational assemblages, restricted code, working-class

Why return to Bernstein's beleaguered concept of restricted codes; and why now? Why not simply abandon this troubled concept and start afresh? I will argue for the need to re-imagine rather than abandon 'restricted codes' because, in brief, it enabled Bernstein to genuinely capture phenomena of class difference that remain politically, socially, educationally and theoretically important. There is a great need to specify class difference in times when global trends proliferate similarity rather than encourage diversity in schools (Henry et al., 2001). Furthermore, schools across Europe

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continue to fail working-class and marginalised groups disproportionately (Connelly et al., 2014) while ‘othering’, pathologising and often excluding them from school (Ashurst and Venn, 2014).

My early work as a research assistant in the 1990s as part of a project exploring the cross-curricular themes in the then new national curriculum in England and Wales (Whitty et al., 1994a; 1994b) required me to engage with Bernstein’s theory.¹ I worked closely with Bernstein on a small part of the project, which explored class difference in secondary (high) school pupils’ recognition of cross-curricular themes that was later reported in Volume 5 in the series of titles developing Bernstein’s code theory (Bernstein, 1996: 35–37). We employed a conventional sorting task similar to the one used by Janet Holland (1981) and obtained the same kinds of findings that indeed young people from manual and skilled labour backgrounds sorted the items according to only one code while those with parents from non-manual jobs more often had two codes. Bernstein’s work on speech codes came to haunt me when, a decade later, I was involved in a number of research projects in the historically working-class, ex-coalmining valleys of South Wales.² Because we worked in schools and youth centres we were continuously struck by a visceral sense of ‘difference’ that exceeded capture through language and hinted at the uncodeable features (MacLure, 2013; St Pierre, 2013) of their orientations to the world. It was the need to describe the feel and quality of this ‘difference’ that motivated me to return to Bernstein’s work in order to re-imagine the unfortunately named ‘restricted code’.

Rereading Volumes 1 and 2 of Bernstein’s series (Bernstein, 1974: 1973) revealed issues about working class differences that are as pertinent in post-industrial times as they were in the post-war period which gave impetus to Bernstein’s code theory. This paper is dedicated to tracing features of restrictive code that were not fully captured by the languages of description that Bernstein and his co-researchers drew on in the 1960s and 1970s. I will argue that by carefully re-examining Bernstein’s early work on sociolinguistic codes features emerge that point to more generative, life-affirming qualities of restricted code that remained underdeveloped (Evans et al., 2009). In his later works Bernstein described context-dependent (restricted) codes as horizontal discourses that are ‘oral, and specific, tacit, multi-layered, and contradictory across but not within contexts... segmentally organised’ (Bernstein, 1990: 159).

I will start by focusing on difference rather than deficit, following this with a section on the style of Bernstein’s argumentation. His emphasis on couplets in the theory building introduced hierarchies that created the sense that working-class knowledge was inferior to middle-class knowledge. By returning to one of his earliest papers, we can find that an original feature of ‘restricted code’ was a condensed shorthand established through familiarity that was not tied to class *per se*. The next section is dedicated to Volume 2 of Bernstein’s work *Class, Codes and Control* and focuses on the studies that established the empirical basis for speech codes. Here, I argue that Bernstein struggled to manage tensions between the need for robust and reliable scientific data to establish code difference while trying to limit the damaging implications that represented the working class as having inferior knowledge to that of the middle classes. Many of Bernstein’s subtle qualifications to findings in these studies refer to ‘uncodeable’ features of restrictive codes. In order to tease out why Bernstein kept emphasising the presence of extra-linguistic, affective and creative aspects of restricted codes I explore Bernstein’s biography as a teacher in East London, from Volume 1. These accounts capture some of the living aspects of restricted codes that escape codification and which resonated strongly with our work in the ex-coalmining valleys of South Wales. An illustrative example from my work is presented to highlight what is missed through rigorous, controlled and scientific approaches to data analysis, as reported in Bernstein’s Volume 2. I present instead the uncodeable features of community life as generative, inter-generational resources in order to re-imagine restricted code as relational assemblages. In conclusion, alternative descriptions of higher order mental capacities that rely on embodied, relational and affective features of knowing are

rehearsed, in order to redress the hierarchical imbalance that relegated restricted code to an inferior position in comparison to elaborated code. Accordingly, higher forms of knowledge are defined as expertise rather than scientific knowledge per se.

Difference not deficit

Code theory caused considerable controversy throughout the 1970s and 1980s when it grounded difference in the cultures and values of different class groups within society which Bernstein referred to as different orientations to the world. Yet, however controversial, Bernstein's aim was to present a position counter to that proposed by Chomsky and his search for a universal grammar. Basing language on an innate mechanism (the Language Acquisition Device) enabled Chomsky to argue that all groups have equal access to the linguistic resources required to participate in society. While Chomsky advocated the possibility for social equality in race-torn USA, Bernstein in the UK sought the causes of inequality in society. He explored different patterns of meaning created and reproduced in the social institutions of family, community and school (Bernstein, 1974).

Code Theory is based on a distinction between code and its realisations, in which realisations are 'a function of the culture acting through social relations in specific contexts' (Bernstein, 1974: 173–174). As Kress has eloquently explained, code is used to describe '... the organization of language as *code* both as the expression of the real actions of individuals in their social places, and as the expression of the organization of their social groups' (Kress, 2001: 64; original emphasis).

Bernstein derived principles and remorselessly, almost excessively, worked and reworked them. Code cannot be reduced to a definition. It works instead as a concept within a theoretical architecture that has both intrinsic and extrinsic values – so while codes are acquired as a particular modality, or orientation to the world, at the same time '*the potential of disordering* is also acquired' (Bernstein, 1996: 128). To read of codes in Bernstein's Volume 5 requires knowledge of the history of the concept and how it both condenses his thinking in Volumes 1, 2 and 3, and how it has already gone beyond that thinking. The written words vibrate with the layering of theoretical work that was built across time and published in numerous papers and volumes.

The social scientific method

Bernstein tried carefully to demonstrate the positive and negative features of working-class and middle-class life. However, this intention came into conflict with the scientific method that was based on coding data generated in laboratory conditions. The emphasis on rigour, reliability, the need to generalize, and the use of languages of description that drew on syntax and functional linguistics guided the research reported in Bernstein's Volume 2. Most importantly, class was an independent variable in the design of the studies. Studies were undertaken in laboratory conditions rather than in naturally occurring environments; this introduced many limitations that were acknowledged but which did not prevent working-class children and mothers from emerging as inferior compared to middle-class groups. The specific languages of description privileged oral elaboration while at the same time failed to bring to light features of knowledge that escape language.

Inevitably, as a result of these methods and the social science methodology favoured at the time, Bernstein's theoretical work came to be associated with a deficit model of the working class and in some cases, by implication, minority race and ethnic groups as having a 'restricted code' (Labov, 1969; Rosen 1974). This deficit interpretation dominated many people's reading of his work. It was an interpretation that Bernstein (1996/2000) and other scholars such as Halliday (1995), Hymes (1996) and Hasan (1999) have attempted to challenge. Bernstein's reputation for pathologising

working-class people was particularly ironic and painful given his double outsider identity as a 'poor' Jewish immigrant to London. He never really recovered from the consequences of the scientific method and the term 'restrictive' that he chose to characterise features of working-class life.

Bernstein's style of argumentation

Bernstein's mission was to explain social class inequality and specifically how schooling reproduced this inequality by showing how groups gain and maintain power. A major part of his argument rests on showing how the internal structuration of a group or code (whether a sociolinguistic or a knowledge code) achieves a stability that makes it less susceptible to 'takeover'. Notions of conquest, takeover and colonisation belong to a modernist imaginary underpinned by assumption of progression. Accordingly, 'takeover' feels like regression while 'conquering' feels like a kind of mastery. The theory operationalises power as the achievement of a state of stability that comes from a group's ability to insulate itself from attack and close its borders. This image of fortification lends a positive value to strong classification and the consequence of opening those borders as a kind of dilution or contamination. The quality of openness, which is essential for any change or transformation, becomes coloured as a weakness (e.g. having a weak grammar). Therefore openness ends up being a necessary yet often devalued element in numerous conceptual couplets within the theory, such as: strong and weak grammar; vertical and horizontal discourse; and abstract and context dependent. This hierarchical approach was valued as part of grand theory building that sought to find the cause of human behaviour that was at the pinnacle of social science methodology in the 1970s and 1980s (Shotter and Lock, 2012).

The work on class difference was influenced by Ferdinand Tönnies' *Gemeinschaft* and *Gesellschaft* and three class distinctions: the ruling class, bourgeois, and the proletariat.³ Forms of social organisations are the contexts that evoked different speech forms. Speech forms were inspired by Ferdinand de Saussure's distinction between *la langue* and *la parole*, such that elaborated and restricted codes can be viewed as two variations of *la parole*. Different kinds of social organisations set up the social ground for what Bernstein refers to as different orientations to meaning within what he further refers to as the ruler of consciousness that effectively regulates what can and cannot be thought in any group, society and era (Bernstein, 1996: 82–88).

Looking back on his work towards the end of his career, Bernstein (1996: 100) stated that after his very early work on sociolinguistics, up to 1966, he worked very little on the code orientation (speech forms) of children. He admitted that after the empirical work in the 1970s he supervised only one study that explored children's codes – Janet Holland's doctoral thesis, in 1981 (Bernstein 1996: 33). Our small study on class codes and cross-curricular themes was another (Bernstein 1996: 35–37). Restricted code remained somewhat under-theorised in comparison to other parts of the theory, such as his extensive exploration of the pedagogic device (Evans et al., 2009). The next section turns to an early paper where Bernstein linked restricted codes to a multiplicity of groups such as closed communities rather than class per se.

Code theory in its earliest forms

In September 1963 Bernstein delivered a paper at the British Association for the Advancement of Science meeting hosted by the University of Aberdeen. The paper was published in 1964 in the *British Journal of Sociology* as 'Social class, speech systems and psycho-therapy'. In it Bernstein linked restricted codes not so much to class but rather to the social organisation of closed and tight-knit communities that had an 'extensive set of closely shared identifications'.

In the case of a restricted code the speech is played out against a back-cloth of assumptions common to the speakers, against a set of shared interests and identifications, in short against a cultural identity which reduces the need for the speakers to elaborate verbally their intent and make it explicit. If you know somebody very, very well, an enormous amount may be taken for granted, you do not have to put into words all that you feel because the feelings are common. But knowing somebody very well is a particular kind of social relationship; knowing somebody very well indicates common interests, identifications, expectations, although this need not necessarily mean common agreements. Concretely a restricted code is not necessarily class-linked but will arise in closed communities like a prison, combat units in the armed services, but also between close friends, in the peer group of children and adolescents. In fact, wherever the form of the social relationship is based upon some extensive set of closely shared identifications self-consciously held by the members. (Bernstein, 1964: 58)

In this passage Bernstein associated restricted codes with varied and multiple contexts characterised as ‘closed communities, close friends and children’s peer groups’. The quotation above suggests that members of dominant groups use restricted codes in some contexts. This notion of restriction comes from a shared sense of group belonging.

Another reading of this would be Vygotsky’s developmental account of inner speech, which is public, or external, speech that has gone ‘underground’ yet remains as a condensed form with a different structure and logic (Vygotsky, [1934]1988: 84–95, 235–256) to external or public speech. Bernstein refers to Vygotsky’s work in Volume 1 (Bernstein, 1974, 2nd edition: 93, 123, 171) citing a paper published in *Psychiatry* in 1939 titled ‘Thought and speech’.

In Vygotsky’s (1988) account, inner speech becomes differentiated from public or elaborated speech and retains traces of thoughts experienced over time that become condensed. Accordingly, thoughts are ‘a concentrate of sense’ (Vygotsky, [1934]1988: 247) and so are denser than and ‘will not enter words’ (Vygotsky, [1934]1988: 249.). These quotations from Vygotsky (1988) capture some of the specificity of this visceral knowing, a sense of belonging to a community that is transmitted in ways other than through speech.

When describing the psychotherapy relationship between an analyst and the analysed Bernstein referred to ‘extra verbal channels’ of communication. He used an example of the communication between a mother and child to expand what he meant by ‘areas of discrete intent’ that cannot be verbalised.

I should like to consider some areas of *affective difficulty* which may be elicited, maintained and strengthened by a role relationship where both members are limited to a restrictive code. It has been argued that the *extra verbal channels* will carry messages bearing the mutual intents of mother and child. Interpersonal aspects of this relationship in which each will uniquely qualify each other’s experience *will tend not to be raised to the level of verbal elaboration and made explicit*. The *areas of discrete intent* will not be areas of elaborated speech. *This does not mean these areas have no significance, only that whatever significance they may have is less available for linguistic regulation*. Tensions arising in these areas are more likely to be denied as the means of dealing with them consciously are less available. (Bernstein, 1964: 60; emphases added)

References to ‘extra linguistic’ communication, ‘intent’ and ‘affect’ are features of restrictive codes that cannot be brought to verbal elaboration. Shotter and Lock (2012) revisited Bernstein’s code theory alongside the works of Vygotsky and Luria; they argued that there are ways to theorise implicit features of Bernstein’s codes provided we widen the methodological purview beyond that which favoured grand theory building and the scientific method, which Bernstein adopted in the 1970s. For example, the ‘corporeal turn’ (e.g. Johnson, 1987, 2007; cited in Shotter and Lock, 2012: 62) drew attention to the way living bodily movements are part of communication. People’s needs to orient themselves in the physical world

require perceptual, sensorial and embodied ways to navigate that world outside consciousness and language. ‘Pre-conceptual, embodied “image schemas” give order and connectedness to our perceptions and conceptions’ (Johnson, 2007: 73; cited in Shotter and Lock, 2012: 62). They also referred to the work of the Estonian ethnologist and semiotician Jakob von Uexküll to argue that perceptual systems inform action depending on the interests an organism has in the world and how they are attuned to pick up on what they need. This places the emphasis on different experiences of the world rather than on the different representations of environment that reside in heads. Accordingly, the world comes into view differently due to the functional necessities of the group or person and what is available to them as affordances that enable them to navigate and make sense. Shotter and Lock (2012) introduced embodied knowing to develop some of the ex-linguistic, affective dimensions of Bernstein’s restricted codes – see also the description of the corporeal device by Evans et al. (2009). Bernstein and his co-workers did not recognise embodied knowledge in the studies reported in Volume 2: this is not surprising because these ways of knowing cannot be easily codified. The next section suggests that Bernstein was sensitive to this problem.

Volumes 1 and 2: establishing elaborated and restricted codes

Bernstein’s research unit (SRU) at the Institute of Education, University of London, was the base for the numerous empirical studies that were published in papers and in Volumes 1 and 2 of *Class, Codes and Control*. The empirical research designed by Cook et al. reported in Volume 2 explored children’s and mothers’ talk. Bernstein (1996: 133) acknowledged that most of these early studies did not involve ‘naturally occurring talk’ and instead ‘were based on interviews of mothers in which they *reported* how they interacted with their children’ (emphasis in original).

While analysis revealed differences between working-class and middle-class talk that became the empirical bedrock upon which elaborated and restricted codes was established, we can also sense Bernstein’s disquiet, as if the project of describing class codes remained unsatisfactory. In the summary sections of each chapter we can feel his influence, as he qualified and nuanced the concept of code. For example, in the study that explored mothers’ uses of toys with their children, the concluding section contains this proviso:

.....the research can be said to have demonstrated a social class differentiation in mothers’ conceptions of the use of toys. It is not suggested for one moment that the middle class mother always sees or uses toys for their cognitive or fantasy possibilities. Nor is it suggested that the average middle class conception is in some sense the only possible or ‘best’ conception. It is equally important to point out that it is not held that the working class have no conception of the use of toys – only that collectively they do not share middle class conceptions. (Bernstein and Young, 1973: 20)

Bernstein tried to insist that the study explored *difference* between groups by stressing that the interpretation of working-class mothers’ uses of toys did not imply a value judgement.

In another study, Hawkins explored children’s narrative accounts elicited through a series of picture cards telling a story in cartoon form. Four pictures showed: a group of boys playing and hitting a ball through a window; breaking the glass; running away and being observed by an ‘angry’ man; and a women looking through a house window (Bernstein 1973: 84). The study reported that:

The middle [-class]are being more specific, and more elaborate. They are referring to the objects, and the characters, by name, not by vague *he, she, it, they*. the middle-class child can be understood outside the immediate context without reference to the ‘here and now’..... the working class child’s (speech).... istied to the context in which it occurs. (Hawkins, 1973: 91)

In this study, middle-class children’s speech was described as ‘more elaborated’. In a further study of children’s speech, Turner and Pickvance (1973: 120–132) refer to Bernstein’s (1964) description

of elaborated and restricted codes as relations between codes, social structures and intelligence, to demonstrate that Bernstein was not referring to 'verbal ability' in his definition of restricted and elaborated codes. These studies were designed to test children's orientation to the use of expressions of 'uncertainty'. They concluded that while middle-class children are exposed to a wider variety of experiences than working-class children that encouraged 'flexibility in his [sic] thinking' (Turner and Pickvance, 1973: 115) this might also generate anxiety. There is no empirical evidence for the presence of 'anxiety' in either group, so why include a reference to anxiety? This seems to be another example of Bernstein's concern to emphasise difference over class hierarchy.

In the introduction to Volume 2 Bernstein wrote, '.....it is possible to interpret our findings as offering support for the thesis which maintains that educational failure is primarily a function of processes of communication within the family. I do not hold such a thesis' (Bernstein, 1973: 9).

Another powerful plea to recognise working-class pupils as different yet equal to middle-class pupils can be found in his critique of compensatory education in Chapter 10 of Volume 1. In this chapter Bernstein made it clear that the realisation of elaborated and restricted codes related to the whole school context. Both working-class and middle-class children can realise elaborated codes if the context enables or gives them permission to do so. He pointed out that schools regulate who a person can be, 'by establishing criteria of acceptable pupil and staff conduct' (Bernstein, 1974: 197).

..... the school is both implicitly and explicitly transmitting values and their attendant morality which affect educational contents and contexts of education. (Bernstein, 1974: 197)

Schools also select what is recognised as public knowledge 'through the selection of books, texts, films *and* through examples and analogies' (Bernstein, 1974: 197, Bernstein's emphasis). He stressed that it is the '*total* culture of the school', that is, the context (school environment) and content of the curriculum that provide messages that disadvantage working-class children (Bernstein, 1974: 197, Bernstein's emphasis). He stated, 'It does not mean that the [working-class] children cannot produce at any time elaborated speech in particular contexts' (Bernstein, 1974: 197). He argued that schools create environments that are radically unfamiliar to working-class groups, because they expect forms of communication, social relationships and the realisation of knowledge in forms that privilege context-independent, universalistic orders of meaning (abstraction) that are made explicit in the field of initial socialisation of middle-class and not in working-class families and communities. He argued that it is the job of educators to create learning environments where working-class children feel a sense of belonging, where they can recognise ways of making meaning that give purpose to their lives, without them or their families having to give up their social identities. Education systems that only recognise 'powerful knowledge' (e.g. Young et al., 2014) entail deficit views of marginalised young people. The next section begins to build the argument for the creative features of restricted codes.

The creativity of restricted codes

Hasan's (1973) chapter in Bernstein's Volume 2 (1973) found that the controlling principles that characterise working-class codes may be the grounds for creative fantasy.⁴ She referred to fantasy and imagination as part of her extensive naturalistic, empirical studies of mothers interacting with their children:

In the inter-personal context, the positional orientation of members functions as a restraint, both upon the exploration of the basis of interpersonal interaction, and the explicit verbal formation of the *affective states*. Since there is a general lack of awareness regarding the controlling properties of form, in the imaginative context this may lead to a *greater freedom for fantasy* which is likely to be less constrained by

the logic of organized objective facts or by the explicit conventions of artistic form. (Hasan, 1973: 260; emphases added)

Hasan (1973) implied that middle-class groups induct children into artistic forms that are regulated and rely on principles that may restrain freedom and creativity. I want to suggest that Bernstein shared something of this kind of intuition about restricted codes. He knew the phenomena of restricted codes before he could adequately capture it in a language of description and before the many and various empirical investigations were undertaken and reported in Volume 2. Bernstein (1973) addressed the form of fantasy and imagination in his work as a college teacher in the East End of London in the 1950s.

Hasan's findings about fantasy and creativity resonates with our work in the Welsh ex-coalmining valleys. This has led me to pose the question, 'What happens if middle-class interactions codify and regulate what can be thought and done, to the extent that spontaneous imaginative flights of fantasy have less opportunity to take off?'. Bernstein's biographical account of his work with working-class apprenticeship boys as a teacher in the east end of London provides some clues about his views on the role of creativity.

Poetic beginnings

Between 1954 and 1960 Bernstein taught in City Day College in London. He recalled that there was no reason for the young men on day release from the General Post Office (GPO) and the London Docks to have any interest in education because they had been disregarded by the system. 'Teaching was an uneasy truce between an output norm and the interest level set by the students' (Bernstein, 1974: 4), and he referred to the boys' 'resistance' to the education system. We can detect his sympathy towards them when he mentioned that the students first taught him and then eventually he was able to teach them (Bernstein, 1974: 4). What is this affective, unspoken but powerfully communicated resistance to the school system?

Bernstein (1974) explained that in order to motivate the young men inside college he used the topic of car mechanics to instruct them in English, arithmetic, general science and civics. In an extraordinary account, Bernstein described taking a Bob Dylan ballad and cutting the poem into strips of paper, 'creating a second version with the lines arranged continuously in prose' (Bernstein, 1974: 5). He invited the students to observe if there was a difference between the prose and poetry versions. They answered, 'yes' (Bernstein, 1974) Bernstein realised that:

Poetry among other things has something to do with the hierarchy, and so spatial, ordering of lines. The space between the lines, the interval, allowed the symbols to reverberate against each other. The space between the lines was the listener or reader's space out of which he created a unique, unspoken, personal meaning. (Bernstein, 1974: 6).

As Bernstein recalled, in cutting up and rearranging the paper on which words were printed, '...we experimented, putting together often weird or bizarre, sometimes unexpectedly beautiful series of lines, and exploring the symbolic nature of the space' (Bernstein, 1974: 6). The space between the lines was where personal meanings emerged. Bernstein wrote that he became fascinated by condensation and by the implicit... 'I felt there was a speech form predicated on the implicit' (Bernstein, 1974: 6). The space between the lines seems to hint at a generative force; a creative impulse that bursts forth from order. In the next section I provide one snapshot from my early work in the ex-coalmining valleys of Wales that set me off on a path beyond coding and taught me to attune to the 'difference' and eventually to the creativity of the young people living there.

Beyond restricted coding

Nearly 10 years after the pilot work that laid the foundations for the Young Person and Place Project in ex-coalmining valley communities in South Wales I listened again to the audiotapes of interviews with young people aged 13–14 years whom I had asked to participate in a classical sorting task.

I designed the pilot study to investigate young people's social representations of skills, and to explore how they classified skills from the four domains of home, school, work and leisure. I wanted to know if the historical legacy of valuing masculine, skilled labour (Willis, 1977) had been transmitted to young people two generations after the mines were closed. If working-class manual labour was still valued above symbolic labour, could this account for the continuing low level of academic achievement in many valleys' secondary schools; and was this the whole story?

The pilot followed Holland's (1981) design and involved sorting 30 photographs depicting skills from four domains, in one-to-one seated interviews. Sixty participants in three age groups – 10 boys and 10 girls in each group, aged 11, 14 and 17 years – were invited to look at pictures and sort them into groups and provide oral justifications of their groupings. If participants could sort the items in two distinctly different ways, they were said to have an elaborated rather than a restricted code. As predicted, the majority, but not all, of the young people in each age group, whose parents had manual jobs or were unemployed, had only one way to sort the pictures of skills. Superficially, the findings supported Bernstein's thesis of working-class socialisation into a 'restricted code'. However, the processes of interviewing the young people and my subsequent longitudinal ethnographic work, both inside and outside schools in valley communities, has constantly diverted from a deficit model and has pointed instead to the importance of belonging to communities that have rich, yet distinctly different, histories from those in middle-class localities. In the following account of an interview with a girl aged 14, pseudonymously referred to here as 'Heulwen', I illustrate what the interview revealed if a rigorously controlled mode of questioning, such as those used by Bernstein's co-researchers in Volume 2, is followed; and what happened at the end of the interview when Heulwen found her footing and started to talk in her own way rather than being led by my questions.

My instructions about sorting pictures seemed to wrong-foot her. She was quiet and hesitant, as if trying not to do anything wrong. She would occasionally ask, 'Is this a job?'. When eventually she finished sorting the photographs she justified her groupings as:

Sort 1:

- (1) School
- (2) Jobs (to do with cars)
- (3) Sport
- (4) Jobs (collier, office worker)
- (5) Cooking and cleaning

When asked to sort the photographs a second time she came up with similar groups.

Sort 2:

- (1) Jobs
- (2) 'Cleaning in home – but ironing with cleaning the house – cooking I think that would be a job as well – working in the shop – they work in the army, and those two'
- (3) School
- (4) All sports

Once the sorting tasks were complete, I probed further, trying to find out where her boundary classifications were between different kinds of skills. I asked, 'Do you know anyone who does any of these things?'. Heulwen's words were few, and I worked a lot to get very little response from her. As I listened back to the interview, I confirmed what I had heard in other interviews with girls across our studies, that girls gave a sense of being passive, of obeying rules, of listening to others and of not being inside their own bodies as they spoke.

At one point Heulwen asked, pointing to a picture, 'Is that a builder'? The photograph has two men squatting on the ground with a brick wall behind them. When I said, 'I think it is', she said, 'My father is a builder'. She later revealed that her mother worked in a fish shop. Further on she said that she wanted to become a hairdresser. This gives the appearance of being the kind of social reproduction that some would argue perpetuates social inequality; however, it was not the whole picture. It misses all that Heulwen came to talk about that she valued from her community.

When I listened back to the audiotape I noticed how I gradually attuned to Heulwen's very tentative, hesitant and quiet demeanour that could so easily have been dismissed as an inability to elaborate. Because initially I got very little response from her, I lowered my voice until I was also nearly silent: I whispered and did not try to fill her long silences. I adopted a tentative approach to her questions, as if trying to indicate that I was not an authority. It took a long time, but eventually Heulwen was able to break through my framing and talk in her own way.

Later in the interview I asked her to pick three pictures that showed jobs that were 'the most skilled'. She picked a photo of two soldiers dressed in khaki, a picture with an air stewardess working on board an aeroplane, and a miner working underground. Here is the verbatim transcript of the relevant dialogue:

GI Which requires most skill?

H The army.

GI Why?

H Stop the other side from bombing – stop them from injuring other people.

[GI points to the air stewardess].

H To stop people from getting hurt in a plane crash.

GI Tell me about that one, what is difficult about doing that job? [I point to the picture of a miner; speckled with coal soot underground, pointing what looks like a long iron bar at the rock face.]

GI Why is that a skilled job?

H I don't know. My two grandpas were miners.

GI Did you ever talk to them about it?

H I never seen them. My grandpa died when I was 13. My father said he was injured. My other grandpa died before I was born. My uncle works in it as well.

GI A difficult job?

H You have to work really hard.

Her grandfathers had been miners and she chose mining as the most skilled job. However, when I asked why it was a skilled practice, instead of telling me about the skilled body, the need for

strength, the ability to use machines, she said, ‘...because they cared for other people, by bringing coal up from the ground to warm people.’

When asked what she was particularly good at, she said hairdressing and then immediately shifted the talk back to people ‘...treated badly’.

GI Any skills you are good at?

H Hairdressing.

GI Anything else?

H No.

GI What about the stuff at school?

H I like CORE (humanities in school). You have to find out about olden days, coloured people treated bad.

GI It’s horrible that, isn’t it?

I probed a little further and found out that Heulwen was referring to a history project on slavery. Could it be that her empathy for the people who were treated badly was an articulation of a half-known, not too distant past, when the miners were treated badly by exploitative mine owners, or the more recent past, when Margaret Thatcher (UK Prime Minister at the time) sanctioned violence during the miners’ strikes of the 1980s, a painful memory that still haunts these communities (Walkerdine, 2010; Walkerdine and Jimenez, 2012)?

I lowered my voice to a whisper and kept probing, trying to find out if the strongly demarcated gender roles that had existed in mining communities in the past were still alive in Heulwen’s imaginary. I asked, ‘Are there any skills that boys are good at, then that girls are good at?’. Heulwen said, ‘boys are good at rugby and football’ and then she added, and ‘singing and dancing’, and things to do with cars. I was quite surprised so I asked her if she knew any boys who danced, she said ‘yeah’. At this point in the interview she came alive and spontaneously talked about going to watch boys dance after school and on Saturdays in a youth club. She went to watch the boys with her cousin and it was only after she told me about the boys dancing that eventually she revealed that she too dances. She practised hip-hop dancing and was learning to do cartwheels.

Once Heulwen found a framing that allowed her to make sense she revealed that she had two adult brothers who looked after her a great deal, that her mum owned her business and that she had two cousins who were hairdressers. Most importantly she said she wanted to own and run her own hairdressing business in the future. Her model for future employment came from the practices of people she knew, family support, networks of relatives and connections in her community.

I came to the realisation that Heulwen did not have a restricted code, she had a different code; one in which people, practices, place and work were intertwined. As she told stories she recontextualised my references to abstract skills in concrete examples of people she knew. This follows Vygotsky’s ([1934]1988) description of the way children in school move from scientific [abstract] to concrete concepts. Heulwen had also woven knowledge from history lessons into contexts of people and practices she knew. She said the hardest skilled jobs involved the work of caring for people and keeping them safe (miners, air stewardesses and soldiers). This sensitivity is an orientation to the world that privileges the interconnections among people and drew on the historical legacies of belonging and caring. Women cared for men and the communities above ground while men worked beneath the ground. We heard

similar stories about the way people looked out for each other from adults (Iverson and Renold, forthcoming). This intergenerational communication was passed down through a nexus of practices in ways that Heulwen and other young people articulated only occasionally. In contrast, science, history and sociology, the subject areas of lessons in which aspects of mining are taught, strip out the affective features of mining practice.

Sensing beyond coding

So, can we describe Heulwen's talk as a restricted code? According to the empirical work reported in Volumes 1 and 2 the answer has to be 'yes'. However, to end the analysis there omits something valuable about the assets of these close-knit communities that are transmitted intergenerationally. This knowledge included the values of caring, looking out for each other, and belonging to interconnecting networks of people, place and practices. This relational form of knowledge is required for adapting to changing economic conditions in communities where the real, material and financial effects of de-industrialisation are being experienced on a daily basis. I have previously described this intergenerational transmission as community survival rather than educational failure (Iverson, 2012).

Heulwen's hesitancy in talking was not only about being wrong-footed, she was also trying to find a legitimate position to take up as an interlocutor: was I a teacher looking for the right answer?...who was she supposed to be? While I constantly tried to reassure Heulwen that she could sort the pictures 'any way she liked', I realised I was actually asking her to take up an autonomous, decontextualized position, which was in opposition to the collective identity and relational ways of thinking that belong to her community. Furthermore, my questioning gave her no clues about whether her answers would be judged as legitimate or not. Heulwen's 'real' world community had relied on passing down the embodied knowledge required to endure the harsh and dangerous underground conditions of deep shaft mining. Young people had to be socialised into the ways that would keep the men safe, and women played vital yet reciprocal roles in this.

In general, across our work, we have found that boys from valley communities were more able to take up the offer to be 'autonomous' in interviews and some even took control of the interaction (Iverson, 2012, 2014b). These boys reframed the task as a genuine invitation to play or extemporise and regaled us with stories of their lives that were often funny, poignant and at times greatly distressing. However, by quickly reframing the task, boys also recontextualised the topic of skills as assemblages in which people, places and practices were interconnected. As with Heulwen they became alive, engaged and animated through their storytelling.

As Sauer has pointed out, miners described the embodied knowledge that was passed on intergenerationally as 'pit sense' ('pit' is the miner's term for a mine):

Within the material environment of the mine, miners learn to sense danger as instincts, hunches, or feelings. Miners describe the ability to sense these physical phenomena as 'pit sense' – an embodied sensory knowledge derived from site-specific practice in a particular working environment. (Sauer, 1998: 137)

Sauer's research demonstrated that embodied knowledge, or pit sense, was screened out of official documents reporting mining accidents. She noted that texts such as safety manuals omitted this vital information because it could not be categorised according to the scientists' understandings of topics such as geology, geometry, load and pressure, and medical descriptions of human senses. Scientific and technical texts about mining safety failed to include the very knowledge that was required to keep miners safe in the dynamic, fast moving conditions of underground mining. Miners reported that they felt obliged to ignore the safety manuals.

While we might follow Luria (1976) and Bernstein, (1973, 1996) to highlight the way Heulwen lacked the ability to switch from a restricted, context-dependent code to an elaborated code, this

seems to miss the point and reinforces a hierarchical valuing of decontextualized, scientific knowledge above, for example, embodied knowledge such as pit sense.

The dominant explanation of the route to higher mental capacities is that conceptual thought from everyday or restricted orientations of the world has to be elevated to abstract, decontextualised semiotic means. However, this explanation has been challenged (Wertsch, 1985: 33). For example, Jan Valsiner (2007: 276–299) has reinterpreted Luria's (1976) account of cognitive development among educated and non-educated people in Uzbekistan in his (Valsiner's) classical study inspired by Vygotsky. Valsiner argued that the highest forms of knowledge refer to expertise and not to academic knowledge. A combination of abstract and vertical elements, or scientific and practice-based knowing, assemble as abduction (processes of deduction and induction) that fluctuate between open and closed concepts to build expertise over time. Accordingly, Bernstein's (1996) vertical and horizontal knowledge structures need not be viewed as opposed forms but can be imagined instead as non-antagonistic contradictions (Burkett, 2002; Sève, 1978) that are dialogically related (Hedegaard and Chaiklin, 2005). Shotter and Lock (2012) call attention to a range of further forms of knowing such as embodied knowledge, affects, values and ways of orienting in the world through senses and perceptions. Ivinson and Renold have suggested that the implicit knowledge that was essential for community survival in the past continues to be passed down due to the trauma of how the industry was closed down and livelihoods jeopardised (Ivinson and Renold, 2013a, 2013b; Renold and Ivinson, 2014). Intergenerational transmission goes through bodies and not minds in processes of mimesis (Ivinson, 2012; 2014a); but to glimpse this requires researchers to pay attention to the uncodeable affects and traces of communication. By attuning we can tap into some of the extra-linguistic, creative, embodied, condensed and implicit ways of communicating that Bernstein wrote about as early as 1964 and which became occluded in his later work and, indeed, partially lost.

Re-imagining restricted codes as relational assemblages

In Chapter 9 of Volume 5, Bernstein (1996) extended his work to theorise about different kinds of knowledge. He stated that horizontal knowledge may be tacitly acquired through watching and modelling and might rely on movement between contexts based on 'intuitive, analogic recognition' (rather than through instruction that relies of explicit laws, rules and principles). He stated that both vertical and horizontal discourse 'have an arbitrary base' (Bernstein, 1996: 172). Horizontal knowledge forms, although segmented and not explicit (elaborated) are not entirely profane in Durkheim's sense of being tied to the material base completely (Bernstein, 1996: 171). Although deeply biased towards the value of scientific (vertical) knowledge Bernstein recognised the impasse that is created if openness, weak grammar and horizontal discourses are denigrated completely. As Valsiner (2007) suggested, conceptual openness and closure are required for any kind of development or growth. In the passage below Bernstein cedes the point that horizontal knowledge is central to transformation.

Serial, segmented structures, with weak grammars, may well under particular conditions reveal a suicidal tendency. Such structures may haemorrhage languages to such an extent that there is loss of original identity. Here, paradoxically, the subject shines with an invisible light in other knowledge structures when it may itself be dying. (Bernstein, 1996: 177–178)

Knowledge structures with weak grammars can appropriate another language in a bid to save themselves and in doing so can undergo a subtle shift. The quotation above suggests that such knowledge may assert itself most strongly as a survival strategy when under political attack.

Within the field of Science, Technology and Society (STS) scientific knowledge is being recast as entanglements of material apparatus, contexts, people and discourses that bring certain kinds of phenomena into view (Barad, 2007; Haraway, 1991; Law 2004; Stengers, 2014). We imagine the relational

assemblages that Heulwen exhibited as codes that are part of the community's survival strategy, as generative forces with invisible assets and resources essential for ongoing life. These implicit, embodied ways of knowing are compatible with the feel of restricted codes in Bernstein's early work. Elaborated and restricted codes point to difference: different logics, different social organisations and different ways of thinking, being and knowing. They also require us to start in a different place when working to understand why some young people might not be as invested in the scientific and formal logics of schooling as others, especially in places where community survival and forging new jobs in the wake of massive post-industrial loss is an active, visceral and affective part of everyday life.

Acknowledgements

I would like to thank the two anonymous reviewers who provided me with an invaluable dialogue that has helped me to develop the paper.

Declaration of Conflicting Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

- 1 Assessing Quality in Cross-Curricular Contexts. Principle Investigators were Geoff Whitty and Peter Aggleton (1991–1993), published by the UK Economic and Social Research Council.
- 2 The funded projects were: (i) 2010–2013, the Wales Institute of Social and Economic Research, Data and Methods (WISERD), funded by the UK Economic and Social Research Council (Grant number: RES-576-25-0021) and the Higher Education Funding Council for Wales: the full research team included Gabrielle Ivinson, Emma Renold, Kate Moles and Mariann Märtsin at Cardiff University; (ii) 2013–2018, Productive Margins: Regulation for Engagement, funded by ESRC/ AHRC, PI Morag McDermott, Bristol University (Grant number ES.K002716.1): the full research team on the Mapping, Making and Mobilising project included Gabrielle Ivinson (Manchester Metropolitan University), and Emma Renold, Eva Elliott, Gareth Thomas (Cardiff University).
- 3 'Gemeinschaft and Gesellschaft are ideal types of social organizations that were systematically elaborated by German sociologist Ferdinand Tönnies in his influential work *Gemeinschaft und Gesellschaft* (1887; Community and Society). Tönnies's conception of the nature of social systems is based on his distinction between the *Gemeinschaft* (communal society) and the *Gesellschaft* (associational society)'. See <https://www.britannica.com/topic/Gemeinschaft-and-Gesellschaft> (accessed 19 November 2017).
- 4 It is interesting also to note that Hasan (1973) did not use 'working class' and 'middle class' as variables in her analysis; rather, she was careful to relate her findings of difference to social organisation, hence her use of the Durkheim's term 'mechanical solidarity' which others would have recognised as also signifying working-class rather than middle-class groups.

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