

Research Article

SAM: A Language for Education

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In this article I present a sociological language—social activity method (SAM)—and illustrate how it's development and deployment has educational potential. I draw on my experience with postgraduate students and also engage with extant work in anthropology, sociology, and social semiotics, though the principal concerns of the essay are conceptual. I present three 'relational spaces', of which two are seeing their first published outing in this paper.

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Britannica opens its entry on 'language' with:

language, a system of conventional spoken, manual (signed), or written symbols by means of which human beings, as members of a social group and participants in its culture, express themselves. The functions of language include communication, the expression of identity, play, imaginative expression, and emotional release.

(www.britannica.com/topic/language. Accessed 14th January 2024)

In this article I want to present a *sociological* language, sociology being concerned with patterns of relations between individuals and groups (not necessarily humans, see below) and the realisation, generation and challenging of these relations in cultural practice. I want to reveal how the development and deployment of this language might be construed as creative, which is to say, educational. By way of the empirical, I shall refer to my experience with postgraduate students as well as one or two other settings, though the main thrust of this article is conceptual.

It seems to be common practice to present education and schooling as coterminous, even to use these words interchangeably: this is an error. Schooling is a field (I'll go with Bourdieu, 2015, here) in which education is institutionalized, and in which the habitus generated in teachers and in pupils establishes them as precisely these entities. The production of habitus of course constitutes education, but this takes

place in all fields, not just in schooling: education is a dynamic that occurs when a static state of being is activated as a state of becoming. Furthermore, both the static and dynamic states can be achieved at any level of analysis, so not only that of the individual, institutions, even nations, certainly the planet, can also undergo education (psychology might even take us to sub-individual levels, but I won't go into that here, fascinating though it may be). The mechanisms of education are studied in various fields that each have a tendency to remain at their respective levels, though one suspects that they do well to communicate. In terms of schooling, liberal educators including Dewey (eg 2017 (1910)), Piaget (eg 1972, 1995) and Schön (eg 1987) often seem not to consider the teacher as such to be an *essential* element, though a teacher may encourage, facilitate or, of course, inhibit learning and the teacher may not necessarily be in advance of the learner. Certainly, the claims frequently made regarding the school closures during the COVID pandemic that children were missing learning were absurd: schooling within itself kettles learning in subject disciplines, though this does not exhaust learning: most people learn to speak their first language before ever starting school and continue to learn outside of schooling during and after their time in school. The subject disciplines themselves are far more about discriminating between individuals, already stratified by social categories (that is, socially re-categorising them), than about any other form of use-value (when was the last time you used a quadratic equation or even a formal arithmetic operation?); what one does learn at school is how to bully or be bullied (maybe both).

But how about language? This is a polysemic term, but for the purposes of this paper I'm using it technically to refer to methodological strategies that organize practice, which is, of course, educational. I refer to my, particular language as 'social activity method', SAM, (Dowling, 2009, 2013). SAM consists mostly of 2X2 relational spaces (more in a moment) and a fundamental principle, that Basil Bernstein would have referred to as SAM's 'internal language' with reference to what he described as a 'language of description':

Briefly, a language of description is a translation device whereby one language is transformed into another. We can distinguish between internal and external languages of description. The internal language of description refers to the syntax whereby a conceptual language is created. The external language of description refers to the syntax whereby the internal language can describe something other than itself.

(Bernstein, 1996; pp. 135–6)

To use this terminology, my 'internal language', my fundamental principle, is:

[T] he sociocultural constitutes and is constituted by strategic, autopoietic³ action directed at the formation, maintenance and destabilising of alliances and oppositions, the visibility of which, in terms of regularity of practice, is emergent upon the totality of such action and is thereby available for recruitment into subsequent action.

(Dowling, 2013. No page numbers)

The question then is, how might the deployment of this principle in research activity be constituted as education rather than, simply, as communication or representation? Well, in three ways: firstly, in the process of the construction of relational spaces, see below, and, secondly, in the recruitment of these spaces in the analysis of empirical settings/data. Thirdly in the design of educational programmes. In this paper I shall attempt to illustrate each of these.

In the first attempt at a foreword that I wrote recently I stated that research entails a transaction between *theory*, *methodology*, and *setting*. Almost as soon as I had completed the first version, however, I realised that I had committed a major omission: I had left out the individual characteristics of the researcher—the author. This omission is familiar in the natural sciences, which are frequently written up in the passive mood, obscuring the subject of the research activity. This also used to be common in social research, though is less so more recently now that authors of research are often encouraged to speak in the first person. So, research involves a transaction between researcher, theory, methodology and setting. It occurred to me that this set might be restructured as a two-dimensional relational space: see Figure 1 below.

This of necessity entails a degree of reconceptualising, which is itself an educational process, as follows. For the first dimension I initially recruited Basil Bernstein's (1990) *classification/framing* binary, defining classification as distinctions between categories and framing as distinctions within categories. I pointed out in Dowling (2009), however, that classification (C) and framing (F) effectively perform the same function, but at different levels of analysis relative to each other. I used the organisation of a school to illustrate this: the room numbers and perhaps subject labels classify spaces, but the lesson that goes on in each space is framed in terms of the specific curriculum subject: the curriculum system of classification provides the addresses, each subject frames the business in each address. Dropping down a level, that which is framed as, for example, mathematics, is itself classified according to topics (arithmetic, algebra, geometry, ...) each of which is, in turn, framed in terms of their respective processes and so forth. C/F is, strictly, a fractal dimension. This fractal nature rendered these concepts unsuitable for my purposes in this article. So, I'll recontextualise an alternative pair of categories from philosophy—I

emphasise ‘recontextualise’; I wouldn’t want anyone running away with the idea I am claiming to be a philosopher! Classification, then, I will replace with ‘ontic discourse’, referring to the collection of theories—systems of objects and their relations—that may be deployed or built in research. Framing I’ll replace with ‘epistemic discourse’, which is to say the collection of methodological strategies or research processes. Ontic discourse (OD) might be glossed as the ‘what’ of research activity, epistemic discourse (ED) to the ‘how’.

For the second dimension of my scheme, I’ll recruit a category distinction of my own (Dowling. 1998), that of *discursive saturation* (DS): this concept refers to the extent to which the principles of a practice are rendered linguistically explicit—high discursive saturation (DS⁺)—or not, low discursive saturation (DS⁻). The cartesian product of these two variables gives rise to the scheme in Figure 1—a new ‘relational space’. The scheme enables a theorised distinction and the relation between four sets of research strategies

	Discursive Saturation (DS)	
Level of analysis	High (DS ⁺)	Low (DS ⁻)
Ontic Discourse (OD)	<i>theory</i>	<i>setting</i>
Epistemic Discourse (ED)	<i>methodology</i>	<i>author</i>

Figure 1. Research Transaction Space

The terms in the scheme are defined by their position in the table rather than by their more common meanings, hence ‘relational space’. So, *theory* refers to the objects and relations that are defined in the research and are to be contrasted with the regions, objects, relations, and individuals that are presumed, but yet to be defined, in the *setting*. Similarly, *methodology* refers to that which will enable an argument to be made, whereas *author* is that which enables the local form of the argument. This is a fluid space and, in particular, *setting* is expected to become specified, educationally by OD/ED in the research process; initially, ‘setting’ simply points to a region of research interest. Similarly, *author* is expected to become increasingly specified by OD/ED as the style of the particular researcher or team becomes

institutionalised (in their own work, if not more widely). These developments progress with the transaction between the four modes; let's start with *theory*.

Over the years, working with students embarking on their dissertations I have frequently encountered two misconceptions regarding theory: the first asserts that it is necessary to begin any research project with a theoretical framework. Now this position, of course, effectively writes off Grounded Theory (not a theory *per se*, but a method, or, strictly, a collection of methods¹), thematic analysis², and any other approach that seeks to build theory. The theory that is built may be a collection of defined concepts or themes that are relatively independent of each other or maybe a joined-up theory as such. In either case the theory is clearly an output of the research activity—an educational product—not an input to it. A theory might be described as a structured interpretation of the research setting. This being the case, it is clearly reasonable to put this interpretation to the test in an exercise of data collection and analysis, but not all research is of this type. Commonly, we don't know much at all (or are suspicious about what we think we might know) about our research setting and some fields—educational media and technology, for example—are moving so fast that this is almost always the case. Under such circumstances, we should be exploring, not testing. Starting with a theorising of the setting is likely to result in you finding out no more than you (think you) already know.

Sometimes a theory (I'm still in the OD/DS+ quadrant of my scheme) can be asked to do more than it is capable of. Some student dissertations that I've been presented with have begun with the statement that the intention has been to use multimodality theory to analyse a media text or production—a film or a website or a vlog, maybe. One seminal work in the area of multimodality was the 1988 book by Robert Hodge and Gunther Kress, *Social Semiotics* and another, the 1996 book by Gunther Kress and Theo van Leeuwen, *Reading Images: the grammar of visual design*. Now essentially the grammar that they introduce in each of these books is descriptive. In terms of semantics, they reveal how meanings might be represented using semiotics or using visuals. All texts, however, are polysemic, which is to say, they are open to diverse interpretations. So as persuasive as these authors' interpretations may be (though I'm not convinced), they are certainly not definitive. Indeed, in Dowling, 2009, c. 2, I have presented alternative and, I argue, a rather more persuasive interpretation of one of the images that Hodge & Kress analyse: a painting by the Byzantine artist Cimabue³. Now my argument there is based on challenges to their interpretations of Durkheim's and also Bernstein's sociologies on which they base their *social* semiotics. Sociology is necessary to their multimodal/social semiotic analysis because they are claiming to have made sociological interpretations, so linguistics is operating in the wrong space; their discourse is out of

joint. Even without recourse to the correction of their sociology, their analysis of the Cimabue painting is suspect, including, for example, the claim that the haloes around the heads of the saints and angels etc fragment the collective rather than, in my analysis, constituting a 'style marker', thus uniting it. They also miss the bold and focal geometric organising structure of the image: the Christian symbol of the cross.

Now Hodge & Kress claim that the image constitutes a transparent signifier of a society in turmoil:

The authors support their reading by offering a brief description of late thirteenth-century Florence as a 'city-state in turmoil'. They do not attempt an explanation as to why the dominant classes of a chaotic state would be expected to sponsor the production of chaotic cultural artefacts.

Dowling, 2009. P. 34

Especially one to be placed in the church of Santa Trinita in Florence, which was associated with the Medici family at the time of the production of Cimabue's painting.

I am not claiming at all that my analysis is definitive, just that it's better than that produced by Hodge and Kress (perhaps because I'm a sociologist and not a linguist). The contrast, though, does illustrate the polysemic nature of the text and the educational productivity of my theoretical engagement: access to its meaning is not given by social semiotics or by multimodality (see Dowling, 2009. c. 5 in respect of the latter), these simply provide languages through which meaning can be relayed. I should stress that I am not challenging social semiotics or multimodality theory or, for example, film theory generally: these are all able to produce complex and useable languages, but they do not, in the absence of authorial interpretation—an *author*—grant credible access to meaning.

This is the case generally with the relation between theory and meaning, but it's not necessarily the relation between theory and explanation. Many academics, having built or otherwise acquired their theories, will tend to speak in the language of their creation/acquisition. So, when asked to explain a phenomenon they will not present a research argument, but rather summarise an explanation in this language. So, I might claim that the school mathematics curriculum distributes itself in such a way that some students are given access to a region—the esoteric domain—that grants them access to a career and others are denied this access and instead are restricted to an artificial discourse—the public domain—that offers no future either in mathematics or in its potential applications and that, furthermore, the candidates for each group are recognised, principally, in terms of socioeconomic class. The argument in

support of this claim is to be found in Dowling (1996, 1998, 2009) and see below. This statement might be further simplified as: schooling contributes to the reproduction of social injustice. The evidence is obfuscated by academic arcana. In respect of the above summary, I could say that those given access to the esoteric may find that this too is a dead end and that, if they take their mathematical schooling further, they are likely to find that mathematics in the University bears little resemblance to the subject that fascinated them at the secondary level (Dowling, 2010; Dowling & Burke, 2012), though they may fare better in physics or engineering. This is my 'expert knowledge': when speaking with each other, academics speak as peers; when speaking to public audiences, we speak as experts; this is not really a healthily 'democratic' situation, nor does it appropriately educate the audience.

The second misconception about theory (still in the OD/DS+ quadrant) has been widespread amongst doctoral students panicking over what to do with the piles of qualitative data that they've accumulated and that seems overwhelming in terms of quantity and opaque in terms of meaning: "where can I find a theory that will help me make sense of my data?" I'll recontextualise another theory to illustrate the difficulty here, Jean Piaget's (1980) first stage of cognitive development: the assimilation/accommodation dialectic. Well, if we're looking for a readymade theory, then perhaps the data is to be assimilated to it. Naturally, the data is going to have to undergo some changes if it's to fit. This would be tantamount to what Barney Glaser (1992) refers to as forcing. This is not an acceptable solution if we are hoping to learn from the research setting. The alternative is that the theory must transform to accommodate the data. This is preferable, but only if the theory, under transformation, really does fit the data. The approach was adopted by Kanako Kusanagi in her ethnographic-style study of the import of the Japanese teacher development programme, 'lesson study' (Kusanagi, 2022). This is the book for which I was writing the foreword to which I referred earlier.

Kusanagi's study involved interviews with teachers, a teacher survey and classroom observations. Here is an extract from my foreword:

[Kusanagi] draws on theory from several sources, but not in such a way as to impose extant theory on her data. Rather, theoretical constructs introduced by Lev Vygotsky, Basil Bernstein and in my own work are themselves recontextualised in their use in her own analysis. The category 'recontextualisation' itself was initially my recontextualisation from Bernstein and has been subsequently deployed in [Kusanagi's] work. Vygotsky's 'zone of proximal development' has been productively combined with a recontextualisation of Bernstein's speech codes to construct two modes of pedagogic strategy, neither of which is

deployed exclusively in the Javan school. Finally, my own recontextualisation of authority strategies from Max Weber has been again recontextualised by Kusanagi in her own analysis of the Javan school.

Dowling in Kusanagi, 2022

The two pedagogic strategies that Kusanagi identifies are: i) 'elaborated pedagogic strategy' (EPS), which opens a zone of proximal development (zpd) in which support can be provided for the learner; and 'restricted pedagogic strategy' (RPS) that does not form a zpd and so no support is provided for learning. Unlike the case with Hodge & Kress, Kusanagi recontextualises Bernstein, but does not misunderstand or misrepresent it: the theories enlarge their fields of application without undue distortion and without subjecting the data to undue violence. Nevertheless, the data has been theorised, the setting has become recontextualised as theoretical and methodological examples. The untheorized *setting* and the raw data remain in their pristine state, ready for re-analysis by the same or by a different *theory/methodology* combination.

Original recontextualisation, whether of theoretical constructs or of empirical settings is a powerful, a creative mode of education. It is not an identification of an essential truth, but a challenge: *suppose you look at it like this*, which invites further creative action. The original inspiration for this concept comes from Basil Bernstein writing on 'pedagogic discourse', which is:

...a principle which removes (delocates) a discourse from its substantive practice and context, and relocates that discourse according to its own principle of selective reordering and focusing. In this process of the delocation and the relocation of the original discourse the social basis of its practice, including its power relations, is removed. In the process of the de- and relocation the original discourse is subject to a transformation which transforms it from an actual practice to a virtual or imaginary practice. Pedagogic discourse creates imaginary subjects.

Bernstein, 1990; p. 184

I found this to be a potentially powerful idea. Bernstein, however, seems to have limited his examples of 'recontextualisation' to moves from the 'field of production' to the field of 'reproduction', that is the move from a practice to the teaching of that practice. My recontextualization of Bernstein's 'recontextualisation' generalises the concept to refer to any situation in which one practice views another. Simple examples would be media recontextualisations, but it would equally refer to the

recontextualising of *setting* in research or in fiction. Clearly, this process may describe moves at any level of analysis so, again, we have the potential to generate a fractal discourse.

Before turning to the category DS⁺/ED—*methodology*—let’s engage in a little ‘armchair theorising’. It occurred to me to conceive of problem situations in terms of two variables. The first concerns whether the situation is to be played out according to explicit rules or according to a pre-determined structure that is known or discoverable in play. Sports and games would generally meet this criterion as would formal debates, *democratic* elections (there used to be such events apparently) and other competitions. In some cases, the full structure may not be explicitly available at the outset and participants may attempt to discover it experimentally. An example of this situation might be a video game in which the rules or structure are encoded in the environment but may in part or in whole be tacit to begin with; more on this below. There are other situations that do not seem to be rule-based and this may be deemed to be the case in social and humanities research, but not mathematics, which is concerned to explore formal systems having explicit premises. In either case, rule/structure-based contexts and those not having explicit rules or structure may or may not involve opponents. These two variables—rules/structure and opponent/no opponent—generate another new 2 X 2 space as below.

	Rules/Predetermined structure	
Opposition	Yes	No
Yes	<i>compete</i>	<i>negotiate</i>
No	<i>puzzle</i>	<i>design</i>

Figure 2. Problem Situations

This scheme presents four strategies that may be deployed in problem situations. These categories are not mutually exclusive, but the headings, opposition/rules are and generating exclusive, orthogonal categories is itself an educational (so not always straightforward) move in theory building. As I’ve indicated, though, the four strategies are not mutually exclusive, so an individual or group may deploy more than one strategy at different points in their engagement. I should emphasise, the unit of analysis is

the strategy, not the individual agency or agent that deploys the strategy: the scheme does not put individuals/groups into boxes! The determination of whether or not the problem is rule/structure-based or whether there is or is not an opposition is made by the subject of the action, eg the game player, and is not objectively given. We can play around with this scheme to refer to cases beyond those most obviously represented by the category labels.

For example, in research, the distinction between, on the one hand, a realist strategy (that presumes and seeks to discover an underlying structure to the setting) and, on the other, a constructivist strategy involving the claim that the structure of the setting is an artefact of the data collection and analysis itself, is that between *puzzle* and *design*, though the language in which findings are presented may be deceptive. I may claim that ‘my analysis *has revealed* that ...’, which suggests that I have solved a *puzzle*, when in my methodological discussion I have presented a constructivist methodology and so my solution should be presented as a *design*! The motive for such misrepresentation may have to do with marketing in the sense that *design* may be taken to be associated with aesthetic, or even political interests, while the solution to a *puzzle* may be interpreted as more functional or perhaps more ‘scientific’. In the resolution of disputes in a social context, the strategies of one side may be presented in the context of a *negotiation*, whereas the agency in this case may be recruiting resources relating to a perceived underlying structure to the situation, so a move in *competition* is being presented as a *negotiating* strategy. The motive for deception here may be interpreted as relating to a perceived need to show ‘fair play’.

I want to present another relational space, ‘domains of action’, that was originally developed in my analysis of mathematics textbooks (1994, 1996, 1998), but here I want to deploy it in the context of learning to play video games. In this case the mutually exclusive headings derived from Ferdinand de Saussure’s (1972 (1911)) distinction between ‘signifier’ and ‘signified’ or Louis Hjelmslev’s (1970) corresponding pair, ‘expression’ and ‘content’ (the terms used here) each of which may be strongly or weakly institutionalised as represented in Figure 3.

	Content	
Expression	I ⁺	I ⁻
I ⁺	<i>esoteric domain</i>	<i>descriptive domain</i>
I ⁻	<i>expressive domain</i>	<i>public domain</i>

Figure 3. Domains of Action (Dowling, 2013)

The four ‘textual strategies’ in the scheme are constructed as follows. *Esoteric domain* refers to the most strongly institutionalised text, institutionalised, that is, in the context of the activity within the field under consideration, so, non-arbitrary expression and non-arbitrary content. Here ‘the assemblage of hardware electronics and architecture, game structure and software’. *Public domain* refers to the weakly institutionalised text that is the game’s fictitious setting, so, in terms of the game structure: arbitrary expression and content in the sense that alternative game settings might be selected. *Descriptive* and *expressive* are hybrid domains: *descriptive domain* text models the *public domain* in the language of the *esoteric*; *expressive domain* text models the *esoteric domain* in the language of the *public*. Most game players will have no direct access to the *esoteric* language:

Instead, the player has access to a keyboard or console and a graphic user interface (GUI).

There are, of course, many ways to engage with a game, some of which might be described as more destructive than pedagogic. One approach, however, is to attempt to construct the principles of the *esoteric domain* in the language of the console and GUI, which is to say, in the *expressive domain*.

Dowling, 2013. No page numbers.

This is the strategy that is deployed by ‘walkthrough’ sites (eg https://tombraders.net/stella/tomb2.html#google_vignette (accessed 24th January. 2024). *Descriptive domain* text might be deployed in the production of the game by game-designers. I should emphasise that, of course, *public domain* text is itself a recontextualization of what might be referred to as the ‘real world’, it is not in itself ‘real’, though a student of mine had his playing of *Tombrader II* interrupted when

he was reluctant to dive the Lara Croft avatar into shark-infested water; a squeamishness that was of apparently incompatible with the fictional nature of the game and contrasted with the game playing activity of the son of a colleague of mine who delighted in exploring the range of modes of ‘avataricide’!

I will take this one stage further (maybe a stage too far?). My contention is that all fields might be described as constituting an *esoteric* that is constitutive of the ‘habitus’ of subjects, who thereby know how to ‘play its game’ Bourdieu (2015). A social researcher investigating a field—their *setting*—empirically will deploy their own etic language in describing the field. The habitus of the setting will enable the subjects of the empirical setting to regard the outcome of the research in terms of their own *descriptive domain text*, so each setting—social research and empirical setting—as opposing fields will constitute the other as its own *public domain* as in Figure 4.

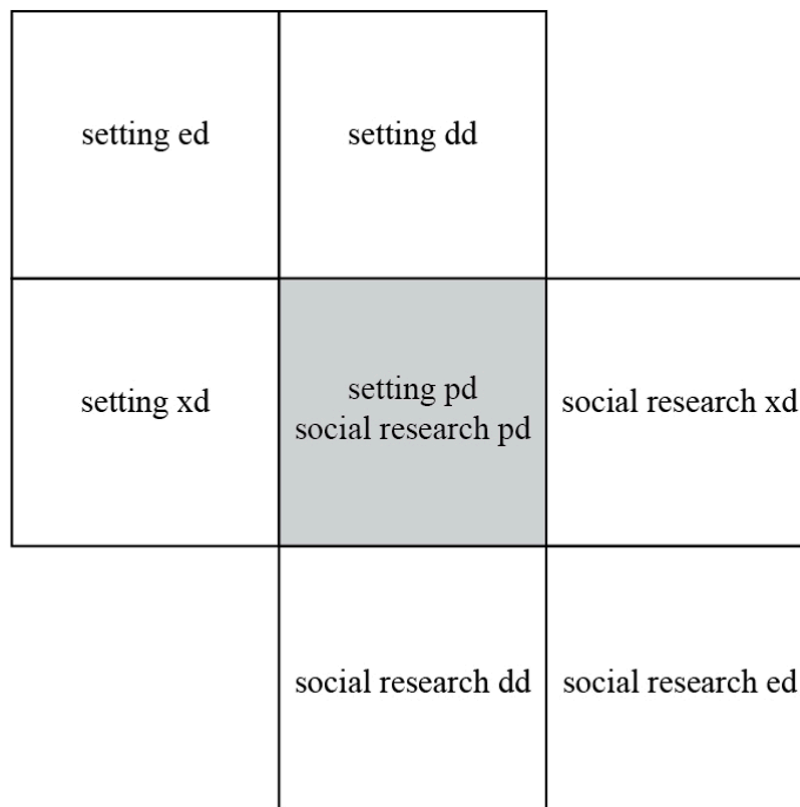


Figure 4. Social Research/Empirical Setting Fields Regard Each Other

ed = esoteric domain; dd = descriptive domain; xd = expressive domain; pd
= public domain

Each scheme has been explicitly constructed (DS⁺) as epistemic discourse, so Figure 4 can be classified as *methodology* (DS⁺/ED) in terms of Figure 1, indeed, each of the schemes in Figure 4 is constituted as *methodology*, which is the explanation for my description of SAM as a ‘method’ rather than a ‘theory’. The social research and setting recontextualise each other as their respective *public domains*. This, of course, is why public audiences often misconstrue research outputs. Indeed, even academic audiences can sometimes misrecognise the *esoteric* discourse of, say, ethnography, here’s Martin Hammersley, who certainly should know better:

[This] point of view is that the choice of context by ethnographers is necessarily arbitrary, in the sense that a host of different stories could be told about any situation, each one placing it in a different temporal and spatial context. From this perspective, ethnography is simply one means among others for telling stories about the social world, stories that need not be seen as competitive in epistemic terms. Of course, given this orientation, there would be a puzzle as to why anyone would go to the trouble of engaging in ethnographic fieldwork. Why not just write fiction in the manner of novelists and short story writers?

Hammersley, 2006; pp. 7-8

No, No, No! That which constitutes anthropology and, indeed, the reporting of research in any other academic discipline as distinct from the writing of novels is, first and foremost, that it is expected to foreground its methodology. This is an explicit requirement in respect of any thesis submitted for the award of a doctorate at my institution (and I would imagine most others in the UK at least) and is an empirical feature of writing generally in social research and the humanities, as well as the natural sciences. Novelists may explain their methods, but this is rarely incorporated into their novels. Furthermore, novels are read differently from anthropology: they may be regarded as artistic expression or entertainment (maybe both), however the author intends them. Of course, anthropology may incorporate these characteristics as well, but these will generally be understood as secondary functions, whereas one or the other is expected (by readers, I’m guessing) to be a primary function of most novels. Another key function of academic writing is education, and this may or may not be in the mind of the novelist⁴. None of this is to diminish the value of novels or of fiction in general. I have, I hope, learned an enormous amount from novels (see example below) and, indeed, from fiction in other media: it provides me with explorations of the ways in which people (and other entities) might be imagined and might imagine, of the creative ways in which language might be deployed and developed, and with

metaphorical structures that excite my own imagination. For the most part I will have no truck with the question of absolute 'truth'. There are, naturally, certain activities for which the question of truth becomes paramount, though perhaps these are not as widespread as is commonly thought. Here is Roy Wagner expressing a view that contrasts with that of Hammersley:

When an anthropologist studies another culture, he [sic] "invents" it by generalizing his impressions, experiences and other evidences as if they were produced by some external "thing." Thus his invention is an objectification, or reification, of that "thing." But if the culture he invents is to have meaning for his fellow anthropologists, as well as other compatriots, there must be a further control on his invention. It must be believable and meaningful in terms of his own "culture."

Wagner, Roy. 2016 (1975); p. 26

Our symbols do not relate to an external "reality" at all; at most they refer to other symbolizations, which we perceive as reality.

Wagner, Roy. 2016 (1975); p. 42

Or, perhaps even more radically:

... only theoretical objects may be discovered; an empirical object is merely encountered.

Dowling 2007; p. 191fn.

Which is another way of putting the distinction between DS^+/OD and DS^-/OD in Figure 1 above. Reification is, perhaps, the outcome of 'mutual interaction rituals' (Collins, 2014) and even established religions do not always or necessarily demand belief in the 'reality' of the constructs of their texts, merely compliance in their rituals (Rappaport (1999; see also Mary Douglas's literary analysis of the biblical books of *Numbers* (2001) and *Leviticus* (1999)). Émile Durkheim determined that the origin of the religious idea lay in collective effervescence;

... it is in the midst of these effervescent social environments and out of this effervescence itself that the religious idea seems to be born.

Durkheim, 2016 (1912). Kindle edition. p. 222

Erving Goffman (2017 (1967)), Roy Rappaport (1999), and Randall Collins (2014) worked with Durkheim's seminal idea, but I want to illustrate it with a brief extract from a recent novel by Elizabeth Strout, whose

protagonist's sister, Vicky, surprises sister Lucy by announcing that she has joined a church:

But when you really pray—and when you pray with other people—the spirit of the Lord can honest and truly come to you.

Strout, 2022. Penguin Books. Kindle Edition. p. 135.

Not just 'the Lord', but any object constituted or believed to originate from beyond the here and now: the ultimate cause, the 'external thing'. Now, the failure to experience collective effervescence is arguably a symptom of autism, so the educational generalisation of the experience of collective effervescence would seem to exclude the autistic: well, educational practice is generally concerned with exclusions and the excluded are often deemed to possess special educational needs because of a presumed deficit. An alternative would understand the non-autistic (most of you, I guess) as victims of collective delusion constituting autism as not a mental health problem so much, but at least sometimes and in some respects a mental health advantage: something of a political inversion?

I'll take just one more step in the treacherous waters of extravagant speculation. I've often wondered what the crows on the electricity cables outside my home in Kishine Koen (Yokohama) are up to with their collective, raucous cawing, or the dogs on leads (mostly) being walked around my London home overlooking South Dock (SE16) collectively and disturbingly barking. Might the notion of collective effervescence be experienced by (presumably non-autistic) animals as well as you? I wonder what they think is going on!

To return to human animals: here's an extract from an interview with Mary Douglas conducted by Alan Macfarlane in 2006:

Alan Macfarlane:

For some people there's a puzzle, because, if you take your, the Durkheimian view and if you are culturally relativist and you look at other religions, some people say that logically shouldn't that undermine your belief in your Catholicism.

Mary Douglas

Yes, I can only think of that as an extraordinarily ignorant question ... This is due to these nuns, the convent, the first convent. They dealt with it all the time, they assumed that there would be other religions ... everybody would think of god and that everybody would make god in their own image, as it were, rather than the other way round and ... every religion

would be bound to be different ... I'd been so inured to that, so that I didn't see that anthropology posed a particular problem ...

<https://www.youtube.com/watch?v=xl3oMdIRFDs>. My transcription. (accessed 24th January 2024)

Indeed!

It is, however, the weasel word, 'belief, that grates here. As Rappaport (1999) notes: whilst (the Jewish) religion expects compliance, it does not demand 'belief' in the reality of it's ontology:

Judaism does not require the devout to believe, for belief is not subject to command, It does, however, demand of them that they accept the law, and this acceptance is signalled by, and is intrinsic to, conformity to the ritual observances that pervade all of life.

Rappaport. 1999. p. 396.

and:

If liturgical orders are to remain vital they must receive the numinous support of at least some of those who participate in them at least from time to time.

Ibid.

A political, if not a philosophical necessity.

'Collective effervescence' in rituals may be experienced (by the non-autistic), but this experience escapes language, so this is DS^- , low *discursive saturation*. It is clearly constituted in *ontic discourse*, so illustrates *setting* in Figure 1, which leaves *author*, which again, must escape linguistic realisation, by virtue of its DS^- nature here. So, this article must stand as my illustration of this category.

I have previously used the relational space in Figure 3 to analyse pedagogic texts, including text books Dowling (1998) and public examinations (2013) and demonstrated that i) the UK school mathematics curriculum was differentiated along social class lines and that ii) the curriculum aimed at high socioeconomic status (ses) students moved between *public* domain and *esoteric* domain via *descriptive* or *expressive* domains, thus constituting an 'apprenticeship' of sorts, both into *esoteric* mathematics and *descriptive* mathematical modelling. iii) The curriculum aimed at low ses students was restricted to the *public* domain. Also, that iv) contrary to the intentions of the National Curriculum at the time (2013) was dominated by non-arbitrary content (*esoteric* and *expressive* text). Also, the school topic of probability was

taught almost exclusively in the *public* domain (Dowling, 1995). The latter plausibly explains my own early difficulties with probability despite being confident in other areas of mathematics.

These examples illustrate that the language, SAM, may be deployed in empirical analysis and in the design of educational programmes. One of my former students, Chung (2011) has deployed the language in the analysis of literary studies and another is using it to revisit contemporary school mathematics and modern foreign languages education. The generation of relational spaces is not usually as straightforward as it might appear: each of the two dimensions of the schemes that I've presented in this article must have been established as mutually independent as must the values of their scaling. The schemes in this paper are limited to 2X2, but I have also generated three-dimensional schemes and there is ultimately no limit to the dimensionality of relationality, though representation becomes a problem above 3D or above 2D if we are to be restricted to plane geometry. As I've indicated, the concepts defined in these spaces are not expected to be mutually exclusive so that if the subject of action is carefully considered, they may be deployed plurally. Two of my former students, Russell Dudley-Smith and Natasha Whiteman (2021) have produced a monograph, *Diagramming the Social* that powerfully historicises, develops and extends the approach very productively. Suppose you look at it like that?

Footnotes

¹ For example: Charmaz (2014); Glaser (1992); Glaser & Strauss (1965, 1967); Martin & Gynnild (2011); Strauss (1987); Strauss & Corbin (1990).

² Braun & Clarke (2006)

³ [https://en.wikipedia.org/wiki/Cimabue#/media/File:Cimabue - Maestà di Santa Trinita - Google Art Project.jpg](https://en.wikipedia.org/wiki/Cimabue#/media/File:Cimabue_-_Maestà_di_Santa_Trinita_-_Google_Art_Project.jpg). Hodge and Kress argue that the Cimabue work contrasts strongly with the work of the later artist, Giotto di Bondone, and so it does in superficial appearance, but the organising structure of the cross in the *Lamentation of Christ* <https://pixels.com/featured/lamentation-of-christ-giotto.html>), though rotated anticlockwise, remains (the slanted rock forming the 'vertical' and the line joining the heads of the two non-haloed women mourners the 'horizontal' and the third non-haloed woman the top of the cross).

⁴ I recall (I hope correctly) a TV interview with Martin Amis in which he said that his principal aim in writing was to educate.

References

- Bernstein, B. (1990). *Class, Codes and Control Volume IV: The structuring of pedagogic discourse*. London. RKP.
- Bernstein, B. B. (1996). *Pedagogy, Symbolic Control and Identity*. London, Taylor & Francis.
- Braun, V. and V. Clarke (2006). 'Using thematic analysis in psychology.' *Qualitative Research in Psychology*. 3(2): 77-101
- Bourdieu, P. (2015). *Habitus and Field: General Sociology, Volume 2, Lectures at the Collège de France 1982-83*. Cambridge. Polity
- Braun, V. and V. Clarke (2006). "Using thematic analysis in psychology." *Qualitative Research in Psychology* 3(2): 77-101.
- Charmaz, K. (2014). *Constructing Grounded Theory*. London, Sage.
- Chung, S-y. (2011). 'The modality of the textual institutionalisation of literary studies: towards a sociology.' *Sociological Research Online*. 16/3/3. 1-14
- Collins, R. (2014). *Interaction Ritual Chains*. Princeton, Princeton University Press.
- Dewey, J. (2017 (1910)). *How We Think*. New Delhi, Prabhat Prakashan. Kindle edition
- Douglas, M. (1993). *In the Wilderness: The doctrine of defilement in the Book of Numbers*. Oxford, OUP.
- Douglas, M. (2001). *Leviticus as Literature*. Oxford University Press.
- Dowling, P. C. (1994). 'Discursive Saturation and School Mathematics Texts: a strand from a language of description'. *Mathematics, Education and Philosophy: an international perspective*. P. Ernest (Ed). London. Falmer.
- Dowling, P. C. (1995). 'A Language for the Sociological Description of Pedagogic Texts with Particular Reference to the Secondary School Mathematics Scheme SMP 11-16.' *Collected Original Resources in Education* 19.
- Dowling, P. C. (1996). 'A Sociological Analysis of School Mathematics Texts.' *Educational Studies in Mathematics* 31(4): pp. 389-415.
- Dowling, P. C. (1998). *The Sociology of Mathematics Education: Mathematical Myths/Pedagogic Texts*. London. Falmer.
- Dowling, P. C. (2007). 'Quixote's Science: Public heresy/private apostasy'. *Internationalisation and Globalisation in Mathematics and Science Education*. Atweh, B. et al (Eds. Dordrecht. Springer. 173-198.
- Dowling, P. C. (2009). *Sociology as Method: Departures from the forensics of culture, text and knowledge*. Rotterdam. Sense.

- Dowling, P. C. (2010). 'Abandoning Mathematics and Hard Labour in Schools: A New Sociology of Education and Curriculum Reform'. Madif 7. C. Bergsten, E. Jablonka & T. Wedege. (Eds) Linköping, Sweden. SMDF.
- Dowling, P. C. (2013). 'Social Activity Method (SAM): A fractal language for mathematics.' *Mathematics Education Research Journal* 25(3): 317-340.
- Dowling, P.C. & J. Burke. 2012. 'Shall we do politics or learn some maths today? Representing and interrogating social inequality.' In H. Forgasz & F. Rivera (Eds). *Towards Equity in Mathematics Education: gender, culture, and diversity*. Heidelberg. Springer. 87-104
- Dudley-Smith, R. and N. Whiteman (2021). *Diagramming the Social: Relational method in research*. Abingdon, Routledge.
- Durkheim, É. (2016 (1912)). *The Elementary Forms of Religious Life*. New York, The Free Press. Kindle edition.
- Glaser, B. G. (1992). *Basics of Grounded Theory Analysis: Emergence versus forcing*. Mill Valley, Sociology Press.
- Glaser, B. G. & A. Strauss (1965). *The Awareness of Dying*. Chicago, Il. Aldine Press.
- Glaser, B. G. & A. Strauss, L. (1967). *The Discovery of Grounded Theory: Strategies for qualitative research*. New Brunswick. Aldine Transaction.
- Goffman, E. (2017 (1967)). *Interaction Ritual; Essays in face-to-face behavior*. London, Routledge.
- Hammersley, M. (2006). 'Ethnography: problems and prospects'. *Ethnography and Education* 1(1): 3-14.
- Hjelmslev, L. (1970). *Prolegomena to a Theory of Language*. Madison, University of Wisconsin Press.
- Hodge, R. & G. Kress (1988). *Social Semiotics*. London. Routledge.
- Kress, G. & T. van Leeuwen (1996). *Reading Images: The grammar of visual design*. London. Routledge.
- Kusanagi, K. 2022. *Lesson Study as Pedagogic Transfer: A Sociological Analysis*. Dordrecht. Springer.
- Martin, V. B. and A. Gynnild, Eds. (2011). *Grounded Theory: The philosophy, method and work of Barney Glaser*. Boca Raton, BrownWalker Press.
- Piaget, J. (1972). *Psychology and Epistemology: towards a theory of knowledge*. Harmondsworth, Penguin.
- Piaget, J. (1980). 'Opening the Debate. *Language and Learning: the debate between Jean Piaget and Noam Chomsky*. M. Piattelli-Palmarini. London. RKP.
- Schön, D. A. (1987). *Educating the Reflective Practitioner: Toward a new design for teaching and learning in the professions*. San Francisco, Jossey-Bass.
- Rappaport, R. A. (1999). *Ritual and Religion in the Making of Humanity*. Cambridge, CUP.
- Saussure, F. de (1972 (1911)). *Course in General Linguistics*. London, Duckworth.

- Strauss, A. L. (1987). *Qualitative Analysis for Social Scientists*. Cambridge, Cambridge University Press.
- Strauss, A. and J. Corbin (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. London, Sage.
- Strout, E. (2022). *Lucy by the Sea*. Westminster.
- Wagner, R. (2016 (1975)). *The Invention of culture*. Chicago, University of Chicago Press.

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