祇園祭

(Thoughts on purification, liminality, art, fermented shark, mathematics, and education for creativity)

Paul Dowling

Institute of Education University of London

This chapter is about purification and liminality and is presented in stream of consciousness form. It was inspired by a paper by Eva Jablonka and Christer Bergsten (2010) in which they attempt what I shall describe as a purification of the category theory in mathematics education. My chapter consists of illustrative responses to a range of different kinds of texts. It recruits analytic schemes from my organizational language, social activity method (SAM), and also introduces new schemes relating to productive action and education for creativity, initially in dance, but then directed at other areas, including mathematics. The title of the chapter remains in its pure, Japanese form. Although (unlike the neologism that's coming up) easy enough to translate via the 'limination' of the WWW, but does it really matter? In this instance, this expression merely identifies the chapter. (I have, on second thoughts, appended a parenthetic subtitle to trap the search engines.)

Chat and the world chats with you, strive to address your issues and you'll be doing it alone.

(Beth in *The Blue Book* by A.L. Kennedy. (2011). no page nos in Kindle edition)

It's often seemed to me that I'm talking to myself. Perhaps I should chat more. Well, here goes.

I know exactly what I was doing on July 17th this year: I was sweltering in Kyoto's oven, really feeling for the traditionally clad marchers and tuggers in the parade of *yamaboko* floats that is the central event in the Gion Matsuri—the month long, Shinto festival that has been held in July pretty much every year since 970 AD (as far as I can ascertain, 天禄 1 in the Japanese calendar). *Yamaboko* is a compound word that is made up of *yama* and *hoko* (with a necessary consonant change). These are the two different kinds of float that are lugged around a 3km route by teams of up to fifty men over a period of 2-3 hours. The twenty-three *yama* weigh a tonne and a half each and the nine *hoko* up to 12 tonnes and can be 25m high, with fixed wheels 2m in diameter and have to be steered using wedges; 'float' seems an almost singularly inappropriate term. There are lots of men crammed onto the multi-storeyed floats as well, all wearing traditional *yukata* or other costumes, some of them playing instruments—flutes and percussion—some of them repeating simple movements with fans. The floats are very brightly decorated with tapestries and tassels. At the front of

¹ I have included some photos taken a year after this chapter was written, that is, on July 17th 2013; see Plates 1-5.

the first *hoko* sits a young boy, selected as a divine messenger. He is dressed in Shinto robes and a phoenix headdress and has been undergoing purification rituals for some weeks before the parade. In particular, he has been kept out of the presence of women. From 13th until the end of the parade—which he starts by cutting a rope—this boy is not allowed to set foot on the ground. As I watch, the parade strikes me as peculiarly self-contained and self-referential; it attracts me as a spectator, but alienates me as any kind of participant in its own meanings.

I am no longer really a tourist in Japan as I have lived there with my partner, Kimiko, for several months each year since 2000. I am not, though, really a Japanese resident—not even a part-time one—either. I'm here on a tourist visa and my ability with the Japanese language is pathetic (Kimiko's excellent English is partly to blame for this). I am in a kind of liminal position, not tourist, not yet (part-time) resident. It's not just the Japanese language that remains elusive. Events such as the Gion Matsuri parade remain alien to me. They seem to be about nothing but themselves. Rather like the old men playing with toy airplanes in Kishine Koen park back in Yokohama. These are social occasions, of course, but their media seem to have no external referents. This is the view from my liminality. Strangely, it also seems to be the kind of view that many people have of sociology.

Enough chat for the time being; I'll address some issues. If Beth is to be believed, this is where the readers skip to the next paper in the collection.

Gion Matsuri, Wikipedia advises me, 'originated as part of a purification ritual (goryo-e) to appease the gods who were thought to cause fire, floods and earthquakes.' I've mentioned the ritual purification of the sacred boy, but there is more secular purification as well in the substantial exclusion of reference to contemporary cultural practice, though I did spot a couple—no more—of contaminating watches, and spectacles appeared to be immune from purifying removal. Boyd and Williams (nd) draw an alignment between purification in Shinto and formalism in art:

The concept of purity in Shinto has three logical features. First, it establishes the distinction between the pure and the impure. Second, in the context of the tradition there is a difference in value between the two: purity is better than impurity. Third, the two contrasting states are related in a specific way. Compared to the pure, the impure has accretions or blemishes that are in principle removable; this is the relationship alluded to by the metaphor of the dust-covered mirror. In bare logical terms, there are two opposite, contrary notions or states, one of which is *in context* to be preferred to the other; and lastly, the lesser state can be viewed as blemished or as containing superfluous elements compared to the former.

That the formal features of art share this same structure can be seen from what has already been said. Formalism describes a family of distinctions—form vs. content, pattern vs. instance, or underlying structure vs. surface expression.

(Boyd & Williams, nd.; no page numbers)

The emphasised qualification, 'in context' is important here, but I will return to that. I want to try to generalise the concept, purification, and I'll do this, firstly, by using a scheme that I've used before and that I call a practical strategic space. The scheme is established via the Cartesian product of two variables. The strength of institutionalisation (scaled I⁺/I⁻) refers to the extent to which a practice exhibits established regularity in the context and at the level of analysis being considered. My own organisational language, SAM, for example, constitutes established regularity

-

² http://en.wikipedia.org/wiki/Gion Matsuri

and is I⁺ within my own academic work and that of a number of users of the approach, but not at the level of analysis that represents sociology or educational research more generally, where it would be regarded as I⁻. The second dimension of my scheme is *discursive saturation* (scaled DS⁺/DS⁻), which refers to the extent to which the principles of a practice are rendered explicit within language. Again, SAM attempts to make its principles available within language (DS⁺) in a way that probably is not the case for the ritual fan movements of some of the participants in the Gion Matsuri parade, two of whom stand at the front of some of the *yamaboko*—at least, not in terms of the mechanism of their purifying action. The scheme is presented in Figure 1.

Figure 1. Practical Strategic Space (adapted from Dowling, 2009)

	Institutionalisation	
	I^+	I.
$\overline{\mathrm{DS}^{\scriptscriptstyle{+}}}$	discourse	idiolect
DS ⁻	skill (competence)	trick

The purifying actions of the participants in the Gion Matsuri and those of Shinto priests described by Boyd and Williams are constituted in the scheme as *skills*. These skills involve dressing and moving just so, and this possibly takes a lot of instruction and practice that may well not involve much in the way of explanation. Where such explanation becomes available, then this would constitute *discourse*.

I found another example of discursive purification on a short vacation in Iceland (a little more chat coming up; but perhaps you've already gone). I couldn't resist the challenge on the menu of a traditional Icelandic restaurant to try kæstur hákarl fermented (ie rotten) shark—'if you dare!' The waiter explained to me that this shark's flesh is poisonous if eaten straight out of the sea, because the fish has no urinary system and high levels of uric acid are concentrated in its body tissue. It needs to be purified, it seems. They achieve this by burying the shark in sand for three months or so and then hanging it up to dry for two or three weeks. This is not a magical practice, however: the mechanism of purification is quite clearly given and involves the expulsion of body fluids from the shark meat. This is discourse (DS $^+/I^+$). Unfortunately, this particular purifying action also has the effect of generating a substantial amount of ammonia in the fish. Mine was served in a sealable jar to minimize offence to other diners. I was to open the jar, take out a chunk of fish, stuff it quickly into my mouth and close the jar (and my mouth) again. The stench whilst the jar was open was appalling, but the meat tasted rather like blue cheese—perhaps that's the taste of ammonia, how would I know? (Actually, on my flight back from Tokyo (first class as I had some upgrade vouchers), I've just discovered the flavor: camembert followed by a swig of nihon shuu—Japanese sake; this was an intellectually, though not particularly gastronomically, exciting experience.)

Before going further with the generalisation of purification, I need to return to Boyd and Williams's description of the fundamental opposition constituted by formalism in art and described as, 'form vs. content, pattern vs. instance, or underlying structure vs. surface expression.' Formalism and, they argue, Shinto rituals privilege the first term in each pair over the second so that it is the recognition of that

signified by the first term in that signified by the second and, in essence, the elimination of the excess or deviation that this implies that effects purification. Now I want to suggest (and I am, of course, far from being the first to do this) that these pairs do not helpfully indicate an ontological relationship. Rather, this might be understood as pointing to strategies that seek to establish alternative gazing discourses and to privilege one via the use of signifiers that lend it a degree of synchronic and/or diachronic invariance. Looked at in this way, purification might go in either direction. Indeed, the longstanding opposition between structure and action in sociology and social theory works in exactly the same way. My use (Dowling, 1998, 2009) of the device '(re)production' is an example of a defence strategy against (or a stimulation to) purifying strategies from either camp and a nod to, lets say, Bourdieu (1977), in Outline of a Theory of Practice, or Giddens (1984) in The Constitution of Society, or, most famously, Marx (1968[1852]) in 'The Eighteenth Brumaire', and all of these and others elsewhere. It is, though, surprising (at least, to me) just how much grip the (let's call it) formalist opposition—and the inevitable privileging of one side of it has: here is Stephen Hawking at the opening of the London 2012 Paralympic Games: 'The universe is governed by rational laws that we can discover and understand' (from a note written shortly after the broadcast)—all the philosophical sophistication of an episode of Star Trek. Just as an aside piece of chat, The Guardian website today had a story asking the question, 'Are bald men more powerful?' The authors had presented paired images of famous men—including David Cameron, the current British Prime Minister—with and without hair and asking readers to vote. I'm not clear whether the vote went to underlying structure or surface expression.

I am not only following what we might refer to as the Derrida line—it is, of course, quite clear that structure and event (my preferred opposition) must entail one another—rather that their separation in acts of purification is always a strategy on behalf of a cultural arbitrary. Mathematics is one such cultural arbitrary and structures—for example, those in formalist art and music—are often referred to in mathematical terms. The OECD, in a publication presenting sample PISA test items, defines the term 'mathematisation' as involving:

- Starting with a problem in reality.
- Organising it according to mathematical concepts and identifying the relevant mathematics
- Gradually trimming away the reality to transform the real-world problem into a mathematical problem that faithfully represents the situation.
- Solving the mathematical problem.

• Making sense of the mathematical solution in terms of the real situation.

(OECD, 2008; p. 99)

It's not entirely clear to me why the 'trimming away' has to be done 'gradually'. The interesting opposition here, however, is mathematics/reality. I (Dowling, 2010, 2013, see also Dowling & Burke, 2012) describe this kind of process in terms of *fetch* and *push* strategies. Fetching might be said to involve the mathematical purification (trimming away) of a non-mathematical practice. Pushing is not, however, the 'real world' purification of a mathematical problem. This is because the subject of the action remains within the mathematical discourse and purification must be actioned

_

³ http://www.guardian.co.uk/science/poll/2012/oct/04/bald-men-more-powerful, article by Patrick Barkham, photomanipulation by David McCoy.

by the purifying subject.⁴ Purification may, of course, be performed the other way around, which is to say, non-mathematical practice may legitimately recruit mathematical resources in its own elaboration and then it is the mathematics that is 'trimmed away. The use of perspective grids in painting might be an example; you're not going to leave in the construction lines, are you? (Are you?)

Figure 2. Domains of action scheme (from Dowling 2009)

	Content	
Expression	I^+	I-
I ⁺	esoteric domain	descriptive domain
I-	expressive domain	public domain

Previously (Dowling, 1998, 2007, 2009, 2010, 2013), I have introduced another schema—see Figure 2—to describe what I am here calling purification. This distinguishes the expression (signifiers) and content (signifieds) of an act or utterance in terms of their strength of institutionalisation in the context in which the act or utterance is enacted. Here it is worth reflecting back on the use of this expression 'in context' in the Boyd and Williams extract above and, again, purification can go in either direction once one admits that there are (at least) two discourses and not one, each one supposing itself to constitute the underlying structure of the other. Were this not to be the case, then a mathematical solution that is pushed back into the 'real world' would always provide the optimal real world answer; in my experience, it generally does not. My scheme presents four domains of action. The esoteric domain refers to action that is strongly institutionalised within the relevant practice in respect of both expression and content, the public domain is action that is weakly institutionalised in respect of both expression and content, the descriptive domain refers to strongly institutionalised expression and weakly institutionalised content, and the expressive domain to weakly institutionalised expression and strongly institutionalised content. It is important to point out that the public domain is not the OECD's 'real world', but refers to any non-mathematical setting organised according to tacit mathematical principles. We might construe the expressive, descriptive and public domains as domains of liminality with respect to the purifying and to be purified discourses. This is to say that the public domain—and through it the expressive and descriptive domains—provide potential ways in to the esoteric domain. Potential, not necessary: in Dowling (1998) I demonstrated the way in which school mathematics texts largely confined students labelled as 'low ability' to the public domain and also that the principles of recognition of low and high ability resonated with low and high socioeconomic status (ses) markers, respectively. The outcome, in textual terms, was a state of permanent liminality for low ses mathematics students. It may be that this is a more general feature of selection in schooling across the curriculum. Boyd and Williams constitute liminality as a second feature of both Shinto ritual and formalist art. They describe liminality using a rather

_

⁴ Elsewhere (for example, in Dowling, 1998, 2007, 2010, 2013; Dowling & Burke, 2012) I have preferred the term *recontextualisation*, which is less directional than purification, but the latter term, I think, has more grip in the context of the present chapter.

effective simile: 'like the checker piece, temporarily lifted off the board in a different (vertical) dimension, while being moved from one square to another' (op cit). One suspects that liminality is rarely a permanent state in Shinto, in art, or in checkers, although it seems to be so in the case of my position in Japan as well as for low ses mathematics students.

The process of producing a doctoral thesis might be described as being conducted in a state of liminality (also seemingly a permanent state for some students). Here is some advice for aspiring classic grounded theory (CGT) researchers and their supervisors from Wendy Guthrie and Andy Lowe:

The only legitimate source of the classic approach to the GT research method is to be found in the publications of Dr Barney Glaser and at the Grounded Theory Institute website (www.groundedtheory.com). Researchers using any other adaptation of GT will be deluding themselves and misleading others. The classic grounded theory research method is a very specific methodology with each step of the process very specifically delineated. Those who adapt and amend the process should not label the research method they have used as GT. Instead they should say their research was "influenced" or "inspired by GT" and then go on to create a new label for the research process they have used.

(Guthrie & Lowe, 2011; p. 56)

Within the context of the edited collection—Martin & Gynnild, 2011—in which it appears, this purification strategy may legitimately be described as a skill. The collection institutionalises, within itself at least, the identification of CGT as a specific method and warns against confusing it with modified GT approaches. Thus it purifies its esoteric domain. There is, however, no rationalising of this position in the above extract, but it is constituted as discourse elsewhere. One of the specificities of CGT is that it attempts to access the key interests and concerns of the subjects in its research settings; it claims, in other words, a correspondence between its own public domain and the 'real world', rather like the OECD with respect to mathematics. For this reason, the CGT researcher cannot at the outset specify precisely what the research is about; hence the interdiction, in CGT, on the prior production of a literature review, which may end up being entirely irrelevant. At various points in the collection it is also pointed out that the aversion to a prior literature review is also grounded on the need to avoid preconceptualising the research setting and, ultimately, to avoid imposing extant theory on the data that will be collected. McCallin et al, writing in the same collection, introduce morality into their purification strategy:

The moral foundation of discipline-specific research turns on the ultimate goal of the profession. Classic grounded theory seeks truth in that its goal is to uncover important problems and patterns of social behaviour as experienced, understood, and communicated by individuals absent of bias, value judgements, and interpretations of the theorist. It is a unique theory-generating approach to understanding human experience.

(McCallin et al, 2011; pp. 78-9)

The exclusion of the 'interpretations of the theorist' is not consistent with the position generally adopted in CGT and in this collection, which bases the theorist's interpretation on their theoretical sensitivity that will have been acquired through their engagement with theoretical work and by conducting previous CGT studies. This will clearly entail differences between CGT researchers and so differences in their interpretations. This, in effect, establishes a distinction between public domain and the substantive settings. The particular purifying act by McCallin *et al* that would

eliminate interpretation, is therefore to be interpreted as an idiolect in terms of Figure 1. McCalin *et al* elaborate this idiolect further:

The moral imperative of research in the social sciences is to produce the best possible knowledge that can be used to positively affect those who require the services of a professional. So, there seems to be a valid moral justification for adherence to the tenets of classic grounded theory in disciplinary research. Furthermore, inadequate, skewed, misinformed, biased, or capriciously interpreted data and thoughtless, preconceived analysis of research data fails to attain the moral imperative central to disciplinary development.

The suggestion here is that there are moral implications involved with remodelling of the original classic method.

(McCallin et al, 2011; p. 79)

Purification here seems to eliminate all research that is not CGT as immoral. Again, this is not consistent with CGT generally.

I am persuaded by much of the discourse of purification of CGT, not only by its presentation in Martin & Gynnild's anthology (see Dowling, 2012), but also by the original seminal publication by Glaser and Strauss (1967), by its contrast with the subsequent work of Anselm Strauss working with Juliet Corbin (1990, 1998), and by Glaser's (1992) own response to the first edition of this work. It would seem from much that is reported—and left unreported—in Martin and Gynnild's book that purification is not adequately achievable by discourse, but demands the acquisition of skill through mentoring—extended liminality—by a researcher who has previously been mentored by a qualified CGT researcher. This requirement effectively establishes a necessary pedigree of succession from Barney Glaser himself, the sole originator of true CGT. Furthermore, even '[1]earning the basics of grounded theory method takes about one and a half years of intensive work' (Gynnild, 2011a; p. 35), constituting what is, in effect, a priesthood. There is also an entry requirement for the seminary: 'Grounded theory is only for people who are very intelligent and can conceptualise.' (Barney Glaser speaking in interview conducted and reported by Gynnild, 2012b; p. 249). The association of intelligence with CGT is a Glaser trick and so can be dispensed with. For the most part, however, a case is made for the specificity of the esoteric domain of CGT method and for the necessary purification both by skill and discourse.

Purifying further by eliminating the moral imperative of McCallin et al allows for the legitimation of my own method—SAM—as an alternative to (not a competitor of) CGT. One of the specificities of SAM's esoteric domain is the emergence of its analytic schemes, such as those in Figures 1 and 2, in transaction between the researcher and an empirical setting. Such transaction is minimised in CGT as it is the concerns of the research subjects that must dominate, hence the rejection of the preliminary literature review. SAM's transaction begins with a prejudicial statement of theoretical sensitivity: the sociocultural consists of strategic, autopoietic action directed at the formation, maintenance and destabilising of alliances and oppositions that are emergent upon the totality of such action and that are visible in terms of regularity of practice so that they are available for recruitment into subsequent action. CGT seeks to identify and conceptualise 'latent' patterns in data (Simmons, 2011); SAM seeks to construct patterns in transaction between its own theoretical sensitivity and the research setting, which itself may be anything at all as is illustrated by the range of settings in this chapter. The result is the kind of conceptual scheme presented in this chapter and an analysis of the setting in terms of these schemes. The former contributes to the legacy of previous analyses. SAM's theoretical sensitivity or

prejudice constitutes an internal language Bernstein, 2000; Dowling, 1998, 2009); the legacy constitutes an external language, external because it comes closest to the empirical field (Dowling & Brown, 2010), whilst the internal language is closer to the theoretical field.

I will continue just a little further with my discursive purification of SAM by eliminating two common criticisms that accuse schemes such as those in Figures 1 and 2 (and the others to follow) of undue reductionism, firstly on the grounds that continua or spectra would allow for greater delicacy in analysis. This accusation, however, is flawed in its presumption that it is possible to construct a continuum in the absence of a metric. For sure, it is possible to compare two texts or practices and argue that one is more discursive than another that tends towards skill or that one text exhibits a greater level of institutionalised action than another and, indeed, I have done just that above with reference to chapters in the CGT collection. This, however, is achieved only by identifying the presence or absence of discourse and skill or I⁺ and I strategies in each text. It is necessary to move to a level of analysis at which a single strategy can be identified and then to move back up to the level of the whole text or practice to describe the accumulation and distribution of strategies. This, in fact, does enable the production of a metric and I have conducted quantitative analyses of various school mathematics texts in Dowling (1998, 2009, 2013). In Dowling (2013), for example, I have analysed items in Foundation and Higher Tier GCSE papers and shown that esoteric and expressive domain strategies are about twice as frequent as public and descriptive domain strategies. These pairings of strategies are apposite because the esoteric and expressive domain strategies both signify I⁺ mathematics, whilst public and descriptive domain strategies both signify I⁻ practice or, in this case, non-mathematical practice. The second criticism accuses the schemes of totalising texts or practices. As I have just explained and demonstrated, this is simply untrue. It is true that the pedagogic recontextualising of SAM generally requires the provision of exemplars from its own public and descriptive domains, which is to say, text or practices that has been analysed by SAM. A short cut is to identify a whole practice, such as physics as discourse or pottery as skill in order to draw on the stereotypical images that the audience is likely to possess to introduce the category DS. In a live presentation, should a member of the audience object that pottery is other than this and that it in fact draws routinely on substantial discursive theory having to do with clay and glaze composition, drying times and firing temperatures, not to mention the historical and aesthetic discourses of ceramics, then this will serve admirably to enhance the introduction to and further illustrate the use value of the concept and the method more generally.

In the preamble I mentioned that this chapter had been inspired by a paper by Eva Jablonka and Christer Bergsten (2010). In this paper they set out to purify (my term) the category 'theory' in mathematics education research. They identify two categories, *intertextuality* and *relational density*, both scaled high/low and defined as follows:

As with all research, mathematics education is discursive in nature and can only be understood in reference to previous research. However, the intertextuality can be more or less explicit (as for example by use of specialised language, references to intellectual roots, building on previous research outcomes). In the examples we discussed above, another dimension emerged, that is, the extent to which relations between the key concepts are established. We refer to this dimension as relational density.

(Jablonka & Bergsten, 2010; p. 37)

This generates another scheme that is reproduced in Figure 3. My initial response was to consider what kinds of strategies were constituted in different practices, starting, oddly, with the Gion Matsuri. I know, it's not research, doesn't claim to be theory and it's certainly not mathematics education, but I have a tendency to want to put apparently unconnected things together to see what happens; more of this later. As a pure spectator, the parade presented itself to me very much as an ad-hoc construction, although if we relax the requirement—I may be reading this requirement into Jablonka and Bergsten inappropriately anyway—that relational density and intertextuality be discursive, then perhaps it's more of a local model. It seemed, from my perspective, connected within itself, but quite disconnected from anything else.

Figure 3. Different modes of classifying, modelling or theorising. (from Jablonka & Bergsten, 2010)

	Relational Density		
Intertextuality	High	Low	
High	theory	conglomerate	
Low	local model	ad-hoc construction	

I think it's what I took to be the discursive imperative in the scheme that stimulated an itch when I began to think about it. I am fully in accord with Jablonka and Bergsten's attempt to upgrade research—I've long felt dissatisfaction with the kind of pretensions they're aiming at—but perhaps not quite for the same reasons. For example, I'm not sure that research can be understood only in relation to former research. Certainly this seems to be a requirement of some academic journal reviewers. One anonymous reviewer of a paper that I recently submitted wanted me to engage with a substantial body of research—possibly including their own—that they deemed relevant. This would have taken about a year's work, lengthen an already lengthy paper considerably, and would not, as far as I could see, enhance the arguments. Furthermore, if this reviewer had identified the connections on their own, why did they want me to do it as well? Other readers having different theoretical sensitivities would presumably have found other connections and, had the revised paper gone to a different reader with demands similar in form but different in content, the paper might have ended up in a permanent state of liminality. The reviewer also pointed out that they had published in both mathematics education and sociology and had also studied methodology; the latter a remark in response to my mention of grounded theory and leading to a demand for further discussion and more literature. In general, this reviewer seemed to feel that, although they could understand the work well enough, no one else would be able to. Consisting primarily of assertions, this review seemed to be a skilled attempt—skilled in the sense that it adopted fairly standard reviewing strategies and made reference to published work—at purification of the field. The strategy did not work, however, as two other reviewers were very positive about the paper and didn't want much changed (just a clarification of the abstract, in fact) and the editor agreed with them. An explicit engagement with previous research is a presentation of the way that the author has responded to and recruited that work. It is an important strategy in relation to the formation,

maintenance and destabilising of alliances and oppositions within the relevant academic field; how many of us go directly to the bibliography of a paper to see if our name or the names of any of our friends or enemies are there? The literature review section of a paper also constitutes discursive purification in respect of explicating its originality, positioning it in the field. This appears to be the principal function of the *post hoc* literature review in CGT. The review might also, perhaps, help to clarify some of the concepts in a paper by reference to already familiar concepts. This latter point is perhaps close to what Jablonka and Bergsten are getting at, but I don't see this as a necessary feature. Quite often one suspects that items are inserted into a paper in an attempt to persuade the reader that the author has read and understood something that the reader probably found too difficult (Deleuze & Guattari, 1984; Lacan, 1977).

Relational density is a quality that is certainly to be valued in research, but again, I am not convinced that it is essential, particularly if relationality must be expressed discursively. I note, for example, that my own and other institutions in the UK are permitting practice based research to be submitted at doctoral level. Practice based research is explained by Linda Candy thus:

Practice-based Research is an original investigation undertaken in order to gain new knowledge partly by means of practice and the outcomes of that practice. In a doctoral thesis, claims of originality and contribution to knowledge may be demonstrated through creative outcomes in the form of designs, music, digital media, performances and exhibitions. Whilst the significance and context of the claims are described in words, a full understanding can only be obtained with direct reference to the outcomes.

(Candy, 2006; p. 1)

Significance and context are discursive, but central to the act of reading and understanding the research is the experience of the creative artefact or performance that may well not be. The relationality within the Gion Matsuri parade is well established by a high density of quotes in dress and design, movements, and so forth. Intertextuality may also be achieved in the same kind of way without necessarily moving to language. None of this is to say that language is unimportant—that would be crass—but connections may be established in both DS⁺ and DS⁻ modes as is widely demonstrated in the arts.

As I have said, I am entirely in accord with the attempt to upgrade research and the use of Jablonka and Bergsten's scheme as an interrogator of research will certainly encourage this appropriately. Furthermore, I don't object to the attempt to purify the term 'theory'. I do not refer to SAM as a theory, but as a method, like CGT, despite the presence of the word 'theory' in the name of the latter: theory is what CGT generates—'discovers' in its original presentation (Glaser & Strauss, 1967)—not what it is. I think my general objection is to work that is unethical by virtue of a lack of investment on the part of the author. Another scheme is about to be born. For my other dimension, I will refer to SAM's fundamental internal language that is concerned with strategic action directed at the formation, maintenance and destabilising of alliances and oppositions. A strategy directed at the formation of an alliance is tantamount to an attempt to destabilise another and, similarly, destabilising an opposition is an attempt to form a new alliance. So Productive action can be described as maintaining or destabilising production involving high or low investment, which gives rise to the scheme in Figure 4.

Plate 1. A Gion Matsuri Hoko



Plate 2. Hoko Fans



Plate 3. A Gion Matsuri Yama



Plate 4. A Hoko Musical Section



Plate 5. A Funeboko (a ship hoko: is it a boat or is it a hoko?)



Figure 4. Productive action

	Production	
Investment	Maintaining	Destabilising
Low	chat	accident
High	craft	art

So my ethical objection is to chat or accident being paraded as research. This does not mean that they are always unwelcome or unproductive, indeed, I am referring to all modes as productive—here in relation to the maintenance or destabilising of alliances and oppositions. The original discovery of penicillin was apparently largely accidental, although its realisation as a useable drug was certainly a combination of craft—the deployment of existing knowledge in biochemistry and pharmacology—and art, including creative juxtapositions. My ethical objection is to the fact that the name that is attached to the drug in popular memory is Alexander Fleming, who had the accident, and the names of Howard Walter Florey, Ernst Chain and Norman Heatley, who did most of the creative work, are often ignored and Heatley didn't even get a Nobel Prize. Chat is, as Beth implies, social glue.

The scheme in Figure 4 is not in competition with Jablonka and Bergsten, but is complementary; it provides another way of thinking about and analysing productive action. I do wonder, though, where they would locate this and others of my schemes in theirs. Thinking particularly about Art—as opposed to art—it is probably easy to come up with examples of chat and craft, and the elephant art gallery (http://www.elephantartgallery.com) has examples of what I might call accident—paintings not of, but by elephants. In February of this year I attended an art exhibition, 'Context' at the Michaelis Galleries, University of Cape Town. The UCT website described the focus of the exhibition as follows:

Context draws together artists who use the book-object as a conceptual point of departure for the exploration of the printed text. The artists_ projects engage the history, value and institutional importance afforded to the book-object. The works on display grapple with the materiality and influence of the idea of the book and the way the notion of the book is related to artistic practice.

(http://www.michaelis.uct.ac.za/newsevents/exhibitions?viewExhibition=172)

The exhibition was curated by Fabian Saptouw and opened by the American artist, Mark Dion. In his opening speech, Dion declared that '[A]rt should challenge'. This, to me, signals an interest in Art as art rather than or at least in addition to Art as craft (I'm not sure what Dion would think of low investment Art). Art, in other words, should destabilise cosy alliances. Well, let's see.

Saptouw's own presence in the exhibition included two works that I want to refer to here. The first was titled *The Picture of Dorian Grey*. This work consists of two sheets of paper that can be viewed at http://www.iart.co.za/all-images-archive/open-books/saptouw1_resize.jpg/ and http://www.iart.co.za/all-images-archive/open-books/saptouw2_resize.jpg/. The description given on the gallery label was a little more comprehensive than that on the website:

Mondi Rotatrim 80 g/m² Paper, Photocopier Toner—TN311, entire text of Oscar Wilde's novel The Picture of Dorian Grey 210x297 and 210x297 mm

For those reading this without internet access (or in case the links have rotted), the first page of this work seems to have been achieved by photocopying the pages of the novel on top of each other on a single sheet, resulting in a black rectangle with some striated variation in depth of blackness and ragged edges. The second sheet seems to be a count of the number of occurrences of each typewriter character (a, b, c, ... ^p, /, __) within the novel. The second work was *Of Grammatology*; I have not yet been able to find any images on the internet. 5 Its label announced:

Mondi Rotatrim 80 g/m² Paper, Photocopier Toner—TN311, entire text of Jacques Derrida's Of Grammatology Dimensions variable

This piece consisted of a stack of pages containing the text, but in alphabetical order: all the as, then all the bs then all the cs, all the way down to all the hyphens (I think) with each new character beginning a new page. Accompanying this was a page with another character count.

When we came out of the exhibition my colleague lamented that she couldn't really engage with this kind of work as she lacked the appropriate experiential field and so could not recognise the quotes. This seems now to echo my own response to the Gion Matsuri parade, feeling anomie in the face of the text, though not—at least, not in my case—repelled by it. In each case, the arcane construction of the text effectively purifies its legitimate audience. Now it may be that the artists exhibited—and even those responsible for the parade—had in some respect or other—deployed pedagogic strategies. This kind of strategy involves the author of a text attempting to retain control over the principles of interpretation of the text (Dowling, 2009). Here, it might be glossed as the artist having distinct messages that they intend to convey and one of the mechanisms available to them would be the use of intertextual quotations. In order to get the message, the audience would have to recognise these; those failing to do so by virtue of their lack of appropriate experiential field would be purified out of the pedagogy.

On the other hand, it is often suggested that any response to a work of Art is legitimate. This constitutes Art in terms of what I refer to as exchange strategies, whereby the author seeks to hand control over the principles of interpretation to the audience (Dowling 2009). This is Art refusing to purify itself in respect of its audience; any experiential field will do. So, reflecting on Saptouw's two works I wondered:

- About the experience of the artist in producing the works and the experience of artistic production generally, how does it compare with, say, my experience in writing sociology;
- Why *The Picture of Dorian Grey* and *Of Grammatology*? These are quotes, of course, that will possibly differentially purify the audience.

⁵ I have subsequently found an image which, though unlabelled, appears to be the *Of Grammatology* stack of pages as one of the sequence at http://www.parking-gallery.net/2012/05/05/context-at-the-michaelis-galleries-cape-town/.

15

- Is there a resonance between the accumulation of ink on the page and the ageing of the picture and, ultimately, of Dorian Grey himself? What kind of images does this generate in terms of ageing generally?
- Is there a resonance/dissonance between deconstruction in Derrida and the dismantling of his work in Saptouw's? In a sense, the now widespread use of 'deconstruction' when 'dismantling' would be more appropriate constitutes, perhaps, naïve quotation as contrasted with what would appear to be Saptouw's ironic one.
- Would it change the work if I removed a page from the stack? If so, would it change only for me—until/unless discovered—or for everyone?
- Does it matter whether or not the artist miscounted or made a typographical error? How about such errors—numerical, typographical, spelling, grammar, errors in argument—in this chapter (there are bound to be some/many)?
- Saptouw (as both artist and curator) has followed standard practice in labelling his work, but at what point does this become ironic?

I could go on and each of these thoughts might birth an essay, albeit an artistically and philosophically ill-informed one; I am, after all, only a sociologist. The point, however, is, again, that any experiential field will do (and I'm now thinking a song from *Joseph and the Technicolour Dreamcoat*—sorry, so much chat when what I should be doing is art and craft!). If, however, I imagine Saptouw's work as an exchange text, I deprive him of control over its interpretation. So how does Art challenge? What is the nature and limit of its pedagogic authority if deprived of interpretive control; what is the degree zero, the maximal purification of Art as presented by Dion?

My answer: in order to challenge, Art as an exchange strategy can only draw attention to itself within, of course, the context of Art presentation (after all, a road traffic accident draws attention to itself in other contexts). Saptouw's work certainly succeeds here. Drawing attention must in some respect be destabilising, and destabilising must be construed as the opposite of purification, which is to say, contamination. Saptouw contaminates by his recruitment of works from another field (although Art usually does this) and by his seemingly arbitrary and pointless dismantling and reconstruction of it, which stands in stark contrast with the craft strategies that are prevalent in popular imaginings of Art, in the Art that most commonly gets to be exhibited by the Royal Academy or on biscuit tins and postcards and populist pottery. All of this purified art has been done already; where does 'Art must draw attention to itself' take us?

It takes me, firstly, to Marcel Duchamp's readymades and to *Bottle Rack* (1914),⁶ in particular, which seems to claim that the ultimate purification of Art is the artist's choice. Then it takes me to Piero Manzoni's *Socle du Monde* (1961);⁷ again, the artist has the whole world to choose from and chooses the whole world. But, for me, the ultimate (so far) is Rachel Whiteread's *Untitled Monument*,⁸ which occupied

_

⁶ See the image at http://www.toutfait.com/unmaking_the_museum/Bottle%20rack.html.

⁷ See the image at

 $http://www.google.com/imgres?imgurl=http://radicalart.info/everything/Manzoni/socle_du_monde-s.jpg&imgrefurl=http://radicalart.info/everything/all.html&h=250&w=326&sz=25&tbnid=22hGCNumk8TUAM:&tbnh=93&tbnw=121&zoom=1&usg=_wnOHtiE8HPHU8b66K6sLyIAc7RA=&docid=tkfpVaq64rgWEM&sa=X&ei=ZVR1UI3rIeqQ0QX8kYDoAg&ved=0CDIQ9QEwAw. \\$

See the image at

the unoccupied plinth in Trafalgar Square for a short period in 2001 and 2002 and, in particular, on an August afternoon, resplendent in its sunshine halo (my photograph demurely hiding amongst thousands of others in a cupboard). Whiteread's work has included casts of living spaces, first a room—*Ghost* (1990)⁹—and then a whole house—*House* (1993)¹⁰—the latter criminally demolished (not deconstructed, surely) by the local authority. Her corpus also includes the commisioned Judenplatz Holocaust Memorial (2000) in Vienna.¹¹ *Untitled Monument* takes the approach to a new level. This is how I described it in *Sociology as Method*:

Whiteread's sculpture is a clear resin cast of the fourth plinth in Trafalgar Square, London, which it occupied between June 2001 and May 2002. This plinth has until recently been unoccupied, the others celebrating famous generals and King George IV on a horse (a statue commissioned by the king himself). Whiteread's cast was placed inverted on top of the plinth recalling, perhaps, Manzoni's inverted plinth. Forty years on from Manzoni and with the benefit of Baudrillard's insight, it is now possible to read this work as a questioning of the artist. It inverts Manzoni's plinth (technically I suppose it is not Manzoni's plinth that is upsidedown, but the viewers) as the mirror image of the plinth on which it stands and which precedes it as the condition of existence of Whiteread's work qua art. The transparency of the work also reveals the physical condition of existence of the plinth itself, which is the space that it consumes 12. Whiteread's work signals a system of monumentalising practices that always precedes the monument and that simulates it as production rather than as merely reproductive of the practice of monumentalising.

(Dowling, 2009; p. 51; footnote in my original)

All of this and it appeared, on that sunny August afternoon, truly beautiful, rendering shameful the graffito on the concrete plinth, 'What for?' (Chat or accident? It depends which side of the square you're on.)

The invoking of Baudrillard's (1993) structural law of value—invoking by my responding to Whiteread's work in terms of exchange strategies—now raises the question: what are the processes whereby a work/this work comes to be exhibited. This question goes sociologically beyond 'what is the meaning of the work in and of itself, either as a pedagogic or as an exchange strategy?' It also casts me back to Saptouw's work. What are the structures that it might be calling into question? *The*

 $http://www.google.com/imgres?imgurl=http://www.artbabyart.com/braveworld/WRead1.jpg&imgrefurl=http://www.artbabyart.com/braveworld/Whiteread.htm&h=250&w=161&sz=13&tbnid=nw4nfzTQ1JVZNM:&tbnh=96&tbnw=62&zoom=1&usg=_tHCiGntABrxDnsTcQeHNvPESMGc=&docid=coSnmUBIwYpV3M&sa=X&ei=5lR1UJGxGOLB0QXi74CwBQ&ved=0CDcQ9QEwBA&dur=1288.$

See the image at http://www.google.com/imgres?imgurl=http://1.bp.blogspot.com/-5XoxXGVM9sI/TbS8bvZ4uRI/AAAAAAAAAAAAA/KyEc269-

 $kS8/s1600/a000575e.jpg\&imgrefurl=http://ph420.blogspot.com/2011/04/rachel-whitereads-ghost_24.html\&h=390\&w=556\&sz=37\&tbnid=K1g2nuRYv2xH8M:\&tbnh=95\&tbnw=136\&zoom=1&usg=_8_qfK_fUbf7vY6Ay5TcDDrdmhW0=&docid=OJRNnXj2q1enqM&sa=X&ei=G1V1UJ_uIqjB0QXa_4CoDQ&ved=0CDkQ9QEwBQ&dur=633.$

¹⁰ See the image at http://www.google.com/imgres?imgurl=http://2.bp.blogspot.com/-VquOcukdmWU/UGB98_YRPsI/AAAAAAAABvE/l_0NZtwBQ0Q/s1600/whiteread-house.jpg&imgrefurl=http://berlindrawingroom.blogspot.com/2012/09/negative-space-from-sanchez-cotan-

 $to.html\&h=395\&w=600\&sz=21\&tbnid=ox6KIEbhMYtfVM:\&tbnh=70\&tbnw=106\&zoom=1\&usg=_aECLYkx2zPPQ3BtBg6vLrY6g_Rk=\&docid=ACO6dywhB7OQxM\&sa=X\&ei=Q1V1ULftJ6ik0AX-64DICg\&ved=0CCoQ9QEwAw\&dur=480.$

11 See the image at http://www.tripadvisor.com.au/LocationPhotoDirectLink-g190454-i64523895-Vienna.html

And so marks out this mode of monumentalising from the other that is prevalent in Trafalgar Square (and elsewhere in Westminster) that is eloquently spoken to by Mark Wallinger's piece, *Ecce Homo*, that was the first work to appear on 'the empty plinth.'

17

Picture of Dorian Grey purifies an interpretation of the production process involved in writing or reading a book as an overwriting of one page by the next, metaphorically, a life as a succession of rewritings of its history, the total recall of which obscures all specificity. Of Grammatology purifies the signifiers to their lowest level of analysis; the structural law of value always operates at multiple levels; purification to degree zero eliminates rather than enables meaning, but immediately allows it back in at a meta-level. Both works render their respective texts unreadable as they were (presumably) authored, disabling pedagogy and any security in comprehension/salvation. I am referred to the arbitrariness of signification, to the arbitrariness of meaning making, to the arbitrariness of reading: any dream will do; self-referentiality par excellence: Gion Matsuri.

Liminality must (in one way or another) come to an end, particularly as I sense the gaze of my word limit (though no matter: there will be no extended 'concluding remarks' to this chapter, it's strictly stream of consciousness). So, take your partners for the last dance—dance education, in fact. Last year (it's 2012 now) an MA student, Monica Bernardo (2011), came to me wanting to study as the project for her dissertation the ways in which school students and teachers understand creativity in dance. The topic had recently become particularly significant as teachers were now being asked to assess creativity in students' performances. In reflecting on her own teaching of dance and in interviews with students and teachers she discovered that students would deploy various strategies in producing their project performances when they were asked to work creatively. One approach was to mix genres of dance taken from the dance curriculum—traditional Indian dance with tap, for example. Another was to introduce dance moves from outside of the dance curriculum. These might include moves that the students had seen on TV (today, wouldn't it just have to be Gangnam Style). Other students copied moves from outside of dance altogetherthe actions of sports players or of a kitten playing with a ball of wool. One student said that she revised science by getting her mother to question her from the textbook whilst she (the student) bounced on a trampoline. We didn't ascertain whether this rather unique approach worked, but the student did recall that it had occurred to her that she might incorporate trampoline-like movements into her dance project. Monica also discovered that it was the students who were most confident in dance who borrowed from beyond the curriculum and students who were the least confident who tended to remain within it. You may have guessed as much, but purification of this discourse reveals another analytic scheme; it's shown as Figure 5.

Figure 5. Modes of creative action

	Institutionalisation	
Activity Specificity	I ⁺	I.
Internal	curricular	popular
External	alternative curricular	free

I can now populate the scheme with the illustrations from Monica's research; I've done this in Figure 6.

Figure 6. Modes of creative dance

	Institutionalisation	
Activity Specificity	I ⁺	I.
Internal	dance curricular	popular dance
External	sports moves	kitten/trampoline

This needs some explication. Selecting moves from the dance curriculum is a comparatively safe strategy, because the moves are legitimated as dance and as dance institutionalised by the school. Moving from institutionalised dance to popular dance is a somewhat riskier strategy, because legitimation liminally awaits assessment. It would appear to the student, perhaps, that the dance curriculum purifies what can count as dance. Borrowing from sports action returns institutionalisation insofar as the particular moves borrowed are recogniseable—cricketers' bowling action, for example. This is again risky, however, because it is an import from what might be described as an alternative curriculum. Most risky, however, is the introduction of kittenish and informal trampolining actions, because they are neither legitimated dance—inside or outside of the school—nor are they institutionalised moves. The cline in risk, curricular, popular/alternative curricular, free did seem to coincide with what Monica told me about her assessments of the confidence in dance of the students, the more confident the student, the riskier—in terms of my scheme—the strategy.

Before considering the relevance of this scheme for education, it is worth considering its generalizability to other parts of the curriculum. In order to do this, it is essential to keep in mind that I have considered only the movement element of dance and not, for example, music or costume. If I am to focus on another school subject, I will have to purify these in the same way and be explicit about what aspect of the subject I am going to focus on. Let's take creative writing and concentrate on the construction of narrative. Figure 7 proposes appropriate examples for the creative action scheme.

Figure 7. Modes of creative writing

	Institutionalisation	
Activity Specificity	I ⁺	I-
Internal	English curriculum	fan fiction
External	historiography/narrative research	enacted narrative

Fan fiction involves the production of narratives relating to extant literary or media texts (see Chung *et al*, 2004). Recruiting narrative ideas from this popular form of creative writing or from forms of I⁺ narrative construction that are external to literature as such would—generalising from Figures 5 and 6—entail a higher level of

risk than remaining within the English curriculum. Enacted narrative would result from narratively purified action in any context; introducing such forms into school based creative writing would involve maximum risk. Figure 8 presents some examples for creative action in mathematics. Here I am focusing on the study of formal systems. It is notable that I have been unable to come up with an example of a popular form of mathematics. At a recent seminar that I held at the University of Cape Town, it was suggested that ethnomathematics might qualify. This, however, is not mathematics in the same sense that popular dance is classified as dance and fan fiction is classified as creative writing. Indeed, ethnomathematics is most definitely not classified as mathematics by participants in the relevant practice and this is understood as a cause for concern on the part of some authors on the subject. I take a different view: see the discussion on ethnomathematics and the myth of emancipation in Dowling (1998). In any event, ethnomathematics identified in, say, the construction of fishing baskets, is tantamount to suggesting that the cricket bowler is actually dancing or that the historiographer—in contrast with, say, Hilary Mantel—is engaged in creative writing; 13 the terms are being appended metaphorically, not literally. Ethnomathematics, then, draws together pretty much every activity that is I⁺ in some relevant context and that can be described in mathematical terms. Natural systems are not socially institutionalised and I have not yet heard a mathematics educator claim that the Fibonacci numbers that can be associated with the growth pattern of a celery plant is the result of the celery doing mathematics and that celery emancipation will ensue should this knowledge be revealed to it.14 Of course, the distinction between social and natural institutionalisation is also an analytic act—the primal act that calls the social into existence—and not an ontological one. Unless, that is, we want to deny that humanity is a natural phenomenon.

Figure 8. Modes of creative mathematics

	Institutionalisation	
Activity Specificity	I ⁺	I.
Internal	curricular mathematical systems	no popular mathematics
External	games, management, governance, sociology, ethnomathematics	natural systems

The scheme in Figure 5 and its interpretation in terms of risk and creativity offers an interpretation of the category, creativity, and a suggestion in respect of education for creativity. The interpretation—and I am not at all claiming originality here—is that a creative act may involve putting together elements that have

http://www.branta.connectfree.co.uk/fibonacci.htm and the bizzare assertion at

http://www.bbc.co.uk/news/health-22991838; we could yet see a stick of celery appointed Professor of Mathematics.

¹³ Simon Schama (1992) plays with the tension here. His book includes a dedication to John Clive, 'for whom history was literature'. It might be argued that Hilary Mantel (for example, 2012) does the same from the opposite camp.

¹⁴But see the mathematically interesting discussion at

previously been kept apart—synthesis. This is contamination. Its opposite is the separating of that which has previously been kept together—analysis—which is purification. Both are concerned with the maintenance or destabilising of alliance and opposition. Creative analysis, however, also involves the imposition of a principle that had hitherto not been incorporated into the relevant practice and so also involves contamination, though at a different level of analysis. I am going to say, then, that creativity necessarily involves contamination in one form or another and the scheme in Figure 5 presents a way of looking at this in terms of increasing risk in the face of an assessment regime. Some students will adopt high risk strategies right from the start and, if the principal that they are deploying in their contaminating act is legitimate—a contamination of sources of movement in dance or narrative in creative writing or formal systems in mathematics—then their creativity may be well received. Others will be initially reluctant to take risks and may be encouraged by the use of the sequence proposed here: curricular, popular/alternative curricular, free. My recollection of being taught dance in primary school was that it started with being told to pretend to be a teapot, a free and so high risk strategy that made some of us feel rather stupid. I'm sure that dance education has moved on in the many years since then.

I have promised no extended concluding remarks, but I won't just stop here. I have just (last night) finished reading Sam Thompson's first novel, *Communion Town: A city in ten chapters* (2012). This work was longlisted—but disappointingly (for me and presumably for Thompson) not shortlisted—for the Man Booker Prize. Here is the end of James Purdon's review in *The Observer*:

The danger with this kind of pastiche is that it can become a form of literary homeopathy, diluting its source to the point where nothing of value remains. While *Communion Town* sometimes seems willing to acknowledge that danger, it never quite succeeds in overcoming it.

(http://www.guardian.co.uk/books/2012/sep/09/communion-town-sam-thompson-review)

I just couldn't disagree more, though suspect that Purdon would write an even harsher review of this chapter. Robert-Douglas Fairhurst, writing in *The Telegraph* and awarding the work five stars out of five, seems to me to have been more willing to pay attention to the book:

Perhaps it isn't surprising that one of his best stories involves a boy who constructs a model town on the floor of his sitting room, allowing his imagination to stretch out and discover what it can do. He could be a figure of the young novelist at work. Turning the pages of Communion Town you become aware that here is a new writer working out what he can do, and realising that he can do anything.

(http://www.telegraph.co.uk/culture/books/bookreviews/9378707/Communion-Town-a-City-in-Ten-Chapters-by-Sam-Thompson-review.html)

When I first saw Robert Altman's (Dir.) *Short Cuts*, it occurred to me that I could have constructed a unity of the various narratives—a penchant of mine at the time—by attaching a particular identity to a corpse that appeared at the end of the film. As it turned out, this proved impossible (as I recall, by virtue of gender) and the unity unravelled on the screen. I have learned, since then, to read film and novels without such purifying tendencies, to yield to the text without establishing it in the public domain of a sclerotic wisdom. That way, they last, as art or indeed as craft, far longer. The Gion Matsuri parade is now a summer away, but its contaminating

juxtaposition with Eva and Christer's scheme (Figure 3) has given me a wonderful fortnight autumn vacation. Now back to the marking.

Yokohama October 2012

References

- Baudrillard, J. (1993). Symbolic Exchange and Death. London. Sage.
- Bernardo, M. (2011). 'Encouraging creativity in dance composition tasks and lessons.' Unpublished MA dissertation. Institute of Education, University of London.
- Bernstein, B. (2000). *Pedagogy, Symbolic Control and Identity*. New York. Rowman & Littlefield.
- Bourdieu, P. (1977). Outline of a Theory of Practice. Cambridge .CUP.
- Boyd, J. W. &Williams, R. G. (nd). Shinto Purification Rituals: An aesthetic interpretation. from http://sunsite.berkeley.edu/jhti/shinto/project1.html.
- Candy, L. (2006). *Practice Based Research: A guide*. Sydney, Creative & Cognition Studios, University of Technology.
- Chung, S-y., Dowling, P. C. & .Whiteman, N. (2004). (Dis)possessing Literacy and Literature: Gourmandising in Gibsonbarlowville. In A. J. Brown & N. Davis. (Eds). *The World Yearbook of Education 2004: Digital Technology, Communities and Education*. London. Routledge.
- Deleuze, G. and Guattari, F. (1984). *Anti-Oedipus: capitalism and schizophrenia*. London. Athlone.
- Dowling, P.C. (1998). The sociology of mathematics education: Mathematical myths/pedagogic texts. London: Falmer Press.
- Dowling, P. C. (2007). Quixote's science: Public heresy/private apostasy. In B. Atweh, A. C. Barton, M. C. Borba, N. Gough, C. Keitel, C. Vistro-Yu, & R. Vithal (Eds.). *Internationalisation and globalisation in mathematics and science education*. (pp. 173-198). Dordrecht. Springer.
- Dowling, P. C. (2009). Sociology as method: Departures from the forensics of culture, text and knowledge. Rotterdam. Sense Publishers.
- Dowling, P.C. (2010), Abandoning mathematics and hard labour in schools: A new sociology of knowledge and curriculum reform. Mathematics and Mathematics Education: Cultural and social dimensions. Proceedings of MADIF 7, Stockholm, SMDF. 26-27th January 2010. Linköping. SMDF. pp 1-30
- Dowling, P.C. (2012). 'Being Barney Glaser.' *Grounded Theory Review*. 11(2). no page numbers.
- Dowling, P.C. (2013). Social Activity Method: A fractal language for mathematics. *Mathematics Education Research Journal*. 25: 317-340. DOI 10.1007/s13394-013-0073-8. Open Access. Retrieved from http://link.springer.com/article/10.1007%2Fs13394-013-0073-8. 4th September 2013.

- Dowling, P.C. & Brown, A.J. (2010). Doing Research/Reading Research: Reinterrogating education. London. Routledge.
- Dowling, P.C. & Burke, J. (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.
- Giddens, A. (1984). *The Constitution of Society: outline of the theory of structuration.* Cambridge. Polity.
- Glaser, B. G. (1992). *Basics of Grounded Theory Analysis: Emergence versus forcing*. Mill Valley. Sociology Press.
- Glaser, B. G. and A. Strauss, L. (1967). *The Discovery of Grounded Theory:* Strategies for qualitative research. New Brunswick. Aldine Transaction.
- Guthrie, W. & Lowe, A. (2011). Getting Through the PhD Process Using GT: A supervisor-researcher perspective. In V. Martin & A. Gynnild. (Eds). *Grounded Theory: The philosophy, method, and work of Barney Glaser*. Boca Raton. BrownWalker Press. pp. 51-68.
- Gynnild, A. (2011a). Atmosphering for Conceptual Discovery. In V. Martin & A. Gynnild. (Eds). *Grounded Theory: The philosophy, method, and work of Barney Glaser*. Boca Raton. BrownWalker Press. pp. 31-49.
- Gynnild, A. (2011b). Living the Ideas: A biographical interview with Barney G. Glaser. In V. Martin & A. Gynnild. (Eds). *Grounded Theory: The philosophy, method, and work of Barney Glaser*. Boca Raton. BrownWalker Press. pp. 237-253.
- Jablonka, E. & Bergsten, C. (2010). 'Theorising in Mathematics Education Resesarch: Differences in modes and quality.' Nordic Studies in Mathematics Education. 15(1): 25-52.
- Kennedy, A. L. (2011). The Blue Book. London. Jonathan Cape.
- Lacan, J. (1977). Écrits. New York, W.W. Norton.
- Mantel, H. (2012). Bring Up the Bodies. London. Fourth Estate.
- Martin, V. & Gynnild, A. (Eds). *Grounded Theory: The philosophy, method, and work of Barney Glaser*. Boca Raton. BrownWalker Press.
- Marx, K. (1968). The Eighteenth Brumaire of Louis Bonaparte. *Selected Works in One Volume*. K. Marx and F. Engels. London .Lawrence & Wishart.
- OECD. (2008). Taking the Test: Sample questions from OECD's PISA assessments. Paris: OECD
- McCallin, A., Nathaniel, A. & Andrews, T. (2011). Learning Methodology Minus Mentorship. In V. Martin & A. Gynnild. (Eds). *Grounded Theory: The philosophy, method, and work of Barney Glaser*. Boca Raton. BrownWalker Press. pp 69-84.
- Schama, S. (1992). *Dead Certainties: Unwarranted speculations*. New York. Vintage Books.
- Simmons, O.E. (2011). Why Classic Grounded Theory. In V. Martin & A. Gynnild. (Eds). *Grounded Theory: The philosophy, method, and work of Barney Glaser*.

- Boca Raton. BrownWalker Press. pp. 15-30.
- Strauss, A. and Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. London. Sage.
- Strauss, A. and Corbin, J. (1998). *Basics of Qualitative Research: Second Edition: Techniques for Developing Grounded Theory*. London, Sage.
- Thompson, S. (2012). *Communion Town: A city in ten chapters*. London. Fourth Estate.