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Paradox, Partiality and Promise:
A politics for girls in school mathematics

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Abstract

This study explores the question of girls in school mathematics through gendered subjectivity. Its theoretical and empirical approach provides a different analysis and sketches an alternative politics for girls in mathematics, not only in its vision but also in the level and style of intervention it advocates. Using ideas drawn from poststructuralist theory and linking these ideas to the political agendas of feminism, it examines, in the first place, how the girl became an historical problem for mathematics education. Its point of departure then shifts the focus of the girl away from an epistemological account of identity to one which constitutes the girl within practices and discourses. Following from this, and by describing how gender is enacted around school mathematics, an alternative approach to knowledge of gendered schooling is developed and new spaces are created for political work in the field.

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FOREWORD:**Opening the I/eye**

or

Locating the writing

What is an educational system, after all, if not a ritualisation of the word; if not a qualification of some fixing of roles for speakers; if not the constitution of a (diffuse) doctrinal group; if not a distribution and appropriation of discourse, with all its learning and powers? What is 'writing'...if not a similar form of subjection, perhaps taking different forms, but nonetheless analogous? (Foucault, 1972, p127)

Foucault¹ marks my point of entry into this text, but his reference should be taken merely as my textual beginning. If this work did indeed once have a starting point it has since been lost long ago in the arbitrariness and turmoil surrounding its production. But what is clear to me that the years in which I spent working as a secondary school teacher of mathematics in some ways have motivated its development. In that particular period it became easy for me to believe that my teaching practice had nothing useful to say to girls about their place in politics. That belief arose precisely from the physical demands made upon the practice of teaching. The actual activity of thinking and researching about theories that might inform my practice had to be postponed until this project.

But there are more urgent questions than this work's points of origin that intrude on this undertaking. In opening with Foucault I want to draw attention to the activity of writing. That my reference to his work marks a deviation from more usual beginnings should not be read as a random choice of beginnings on my part. Granted that the more usual way of beginning would outline what the research is all about, what the research intentions are, why it matters, and how it relates to other mathematics educational projects, taken together, these matters do not demand my immediate attention. I want to forestall such discussion until later in order to attend to the critical concerns that the activity of writing makes upon this project.

Foucault requires my urgent response when he suggests that writing as a mode of activity is a form of subjection. Raising the question of the relationship between writing and politics brings to the fore a whole set of issues about the complicity of writing in various forms of disciplinary power. It draws attention to the activity of writing as a governed site, simultaneously constrained and enabled by formal and informal rules which are

¹ Foucault is one of a group of thinkers commonly associated with French poststructuralism. His commitment was to an anti-idealist programme which holds that "truth is of this world". But his interests extend beyond methodological concerns to a fascination in the mechanisms of power in modern society and herein lies his unique contribution to social theory, namely, his ability to beaver out the manifestations of power where few before him had thought to look.

institutionalised by means of explicit statements or implicit assumptions through specific practices. To talk of writing in this way is to suggest then that all written work is a textual economy and in contextualising this piece of work in this manner I hope to address more adequately the question of where it places itself and for whom it is written.

Where does the writing of this particular text place itself? Whom does it address? This is a report of my work within the discipline of mathematics education. It is of a specific type, framed by the formal requirements of an institutionalised practice. That practice is the production of a doctoral thesis. Its writing is a context bound form of textual production, subject to constraints and enablements from its specific textual economy, the academy. The subject/text it constructs is governed by particular rules that have a history long before it makes its appearance. It is subjected to structuring and technologies of production to the extent that its production is, to paraphrase Bakhtin (1981), overpopulated with others' intentions.

And who am I, the writer of this text? This is written by one trained in mathematics and in education and who desires to be read by the discipline of mathematics education. But it is not confined exclusively to the discursive field of mathematics education. When I write about my field of study it is in light of what others have already said, both within and beyond the discipline. These 'others' can be seen through my writing practices. They mark a characteristic position for me by valorising a set of devices, protocols and conventions for writing. They offer analytic strategies in providing the techniques, the assumptions, priorities and methods, the questions and the terms of the analysis. They enable connections and exclusions to be made, traits to be established and continuities to be recognised. In short they offer a set of discursive strategies that might affirm the writing's status within mathematics education.

While I can say that these 'others' mark some characteristic position for me, I cannot say that they mark the 'truth'. To do so would be to bind the writer to self-presence and stability and argue for the theoretical legitimacy of the objective and disinterested researcher/writer. But there are more valid subject positions than the objective modernist narrator. To say that I have read on the subject and to write using strategies that are 'party' to the appropriate demands, is to raise the question of politics. Have I read and written about the 'right' people, in the 'right' manner? When we approach the issue in this way it is possible to claim that, in the act of writing, the writer is intimately tied to an institutionalised academic endeavour. I, the writer of this text, cannot claim to be the source of authority and guarantor of meaning since I am, with regard to the question of

my thesis proposition, persistently responsible, in the Derridean² sense to the trace of the 'other', the academic institution.

My discursive strategy cannot be dissociated from the place of enunciation and the enunciative, textual game in which I am involved. The thinking/speaking "I" which signs this paper is neither the owner nor the king of the complex network of meanings that constitute the text. (Braidotti, 1989, p93)

There is much in my writing that eludes the logic of 'absolute and true' interpretation. If I hope to map my project onto some sort of 'readable' position I have to situate myself and my project in relation to anterior texts, theories and approaches. And even though I write as an apparent self-present subject, of something unified and whole, something in the writing will always have been suppressed in order to sustain the appearance of unity. When I make distinctions among events and differentiate the networks and levels to which these events belong and connect them in some way I am ordering and unifying them to give them form and meaning. This is, as Lyotard (1984) argues in *The Postmodern Condition*³ still the quintessential way of representing knowledge.

The text is always only a limited writing strategy. It follows that interpretation must then have no essential meaning. Writing is not a transparent medium through which real worlds are described and analysed. The words that the reader sees cannot serve as markers that convey notions of a world; they cannot be read as isomorphic to their referents. The words in the text must be seen as an endless permutation through which a multiplicity of meanings or discursive events interweave in power-laden contexts, negotiating for expression. As Berman (1988) argues: "Language wherever used is composed of structured signifiers, systematized among themselves by differences or oppositions and linked to signifieds in a way more tenuous than even Saussure realized" (p136).

Writing is to, for and from others. Who those others are for this text is already predetermined to some extent by the institutionalisation of academic disciplinary

² For Derrida, meaning is not fixed prior to its articulation in language, but is temporary and relative. Derrida makes use of the concept of *différance* to show that meaning can only occur in a specific textual location and in a relation of difference from all other textual locations. For everything affirmed there is an 'other' that contrasts with it which, though ostensibly absent, is in fact contained in it as a deferred meaning. According to Derrida, experience relies on what he names a metaphysics of presence, that is, the conviction that words are only signs of a real substance which is always elsewhere.

³ The question of the narrative position with respect to truth and justice has been central to Lyotard's work. In *The Postmodern Condition* Lyotard analyses the change in narrative legitimisation structures of the premodern, modern and postmodern epochs. He does not insist on the impossibility of truth claims and of moral judgment, but on the possibility of local and thus plural and multiple processes of verification and justification according to various language games. He advocates a turn to the 'little story' which validates difference, extols the 'unpresentable' and escapes the logic of instrumentality that derives from the metanarratives of progress.

differences. When the reader fixes meaning, he/she does so temporarily with regard to the discipline, negotiating the contingencies of language, rhetoric, power and history. He/she is always privileging particular social interests since he/she simply cannot 'read' the text for information without a commitment to examine one's own position. Because the reader's representation must pass through the pointers of one's discipline the meanings one fixes have implications for existing practices, contesting them, reaffirming them, or leaving them intact.

The problem for the writer is that words are constrained by the instrumentalising parameters of representation, unable to rejoice in their own sovereignty. Meaning will always be political, contextualised within systems and relations of domination and subordination which give society its current form. These forces work through the text in ways that neither the writer nor the reader can fully anticipate or control, so that the text becomes inherently unstable, in flux, constituted by traces of other signs and symbolic statements. Britzman (1997) calls this "the existential limit of representation: both presentation and absence" (p35). There can never be a clear unambiguous statement of anything, including an intention or a meaning. The writer can never be sure how, at any given moment, the text will be interpreted. This suggests that the relationship between you, the reader, and me, the writer, is not only predetermined but overdetermined. Both of us relentlessly re-inscribe the inclusion and exclusion of both the knower and the known from the production of knowledge. It is in this way that knowledge is politically constituted, 'made' by human communicative action that develops historically and is institutionalised politically.

Whose story is this? It is not the authentic voice of the writer nor could it be the voice of her field of inquiry about which she writes. The very notion of the text as true representation is, as I have argued, problematic since it relies on the assumption of self-presence. This of course leaves unoccupied the space where once the writer and her subject of knowledge resided with authoritative persuasion. I want to suggest that in the space vacated by both it becomes possible to frame the meanings of the text differently. This framing is not strictly a frame, but a network of places linked by the movements by which they become places along the way. The text which follows is framed in this way and could be called a piece of educational research in the postmodern. It attempts to exceed the ordinary channels of social scientific access into which we have become attuned. The story it tells is not representative but is constitutive.

It is a fiction. To call it a fiction may cause some alarm. But academic stories are no less fictional than others. My use of the word here is not to do with something opposed to truth. It is to suggest the particularity of cultural and historical truths, the ways they are

systematic and exclusive. It can be called a fiction in this sense of something fashioned. It fashions a specific field of inquiry, fashioning knowledge through the constitutive effects of language. Its production cannot be considered to be politically innocent since it is persistently normed by politics. It is a social fiction, a cultural artefact continually constructed and reconstructed in the complex fields in which the writing and reading I/eye meet.

These are the limits of my power which I needed to share with you. To write the research story turns out to be a mode of activity circumscribed far beyond my own intentions. The insufficiency of my voice and your engagements with my representations undermine any certain basis for belief. But this provisionality and uncertainty does not absolve me from the responsibility of trying to write about it, even if it means revisiting questions about which everything seems to have been said before. If the text that I hope to construct is always mediated by larger social, discursive and theoretical coordinates, then those limitations of which I am aware can be turned upon themselves, to become sites or positions which generate new questions and readings. Ultimately they can become locations better placed to engage in educational criticism and better positioned to play a role in social change.