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The disorder of mathematics education, Part II.

Critique, imagination and play.

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*'Cause everything you try to conceal
Is everything you want to reveal
Flying without wings
(Soulwax, 1998, Flying without wings)*

The idea of conceiving mathematics education as a disorder evolved at a small conference held at the Freie Universität Berlin from January 15th to 17th in 2015. The conference aimed at destabilizing taken-for-granted truths that lay at the heart of mathematics education as a research field. While the "socio-political branch" proclaims a critique of "mainstream" mathematics education to be at the core of its "collective identity", the common premise of the participants of the meeting was that the radicality of this critique is more often than not domesticized for the sake of ordering its object in a way that it suits well the storylines that are commonly narrated. The conference and the book that resulted from that conference (*The disorder of mathematics education*; Straehler-Pohl, Bohlmann & Pais 2017) had a clear focus: developing a critique of the status quo of mathematics education research, including, and perhaps more importantly, research within a sociopolitical vein.

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By highlighting the word “disorder” in the title of the conference, we aimed to deliberately play with its double-meaning:

While it has become clear that we perceive mathematics as a chaotic realm of different meanings, whose (dis)order is contingent upon collective acts of ordering, the second meaning of the word humorously plays with the position of the contributing authors in the field of mathematics education [...] Scholars with a "disorder" can thus be humorously understood as those who appear not to function in the way they are supposed to." (Straehler-Pohl, Pais & Bohlmann 2017, p. 13)

On the one hand, "disorder" thus refers to the assumption that there is *no natural order* underlying the study of learning, teaching and doing mathematics. The idea that any social order – any model of truth about social reality – is not naturally given, but rests on human-made dispositives which stabilize such truths, is recurrent in contemporary social theory (e.g. in the works of Michel Foucault, Pierre Bourdieu, Slavoj Žižek, Bruno Latour, Niklas Luhmann, Luc Boltanski or Jacques Rancière). Taking this state of the art of social theory seriously implies that any study of learning, teaching and doing mathematics must necessarily bootstrap its own conditions of possibility, it must itself create the system of meanings within which it becomes meaningful. At the end of the day, any temporary manifestation of mathematics education research or practice remains objectionable. The critique of a *taken-for-granted natural order* aims at opening a yet-to-be-thought potential for a new, and from the current perspective, "non-natural" or "mistaken" order to emerge. In other words, it aims to open up a space for thinking what currently seems "unthinkable".

On the other hand, "disorder" refers to the observation that wherever the majority of actors assumes a natural order, those who base their reasoning in an alternative order immediately appear as "disordered". This second pathological interpretation of disorder is explicitly directed against the researchers engaging in the "disorder of mathematics education" (in short: DOME) – ourselves – and *not* against mathematics education itself.

Playing with double-meanings, however, always risks misunderstanding: One might start to think that the book takes a nihilistic stance towards sociopolitical research in that many of the chapters simply point out the flaws in existing stances of researchers, and further the feeling of helplessness in not being able to change anything at all. (Sriraman 2017, p. 3)

What Bharath Sriraman – the editor of *The Mathematics Enthusiast*, who has generously invited us to edit the present special issue – points to is that the project of "the disorder of mathematics education" is likely to be interpreted in exactly the inversion of the intended exploitation of the double-meaning of the word "disorder": *Disorder-as-malfunction* as being attributed to the field of mathematics education, and disorder-as-beyond-apparently-natural-order as (self-)attributed to the authors engaging in DOME. At first sight, it could then seem that the authors *superelevate* their own position as unaffected by the messiness of the apparent malfunctioning of mathematics education: "Let me digress at this juncture and point out that this [the focus of the DOME book on critique] may very well be a case of the "pot calling the kettle black"" (Sriraman 2017, p. 4). Here, Sriraman refers to the irony that the *DOME* book (part I) heavily focuses on critiquing the way that mathematics education as a research field is situated within global Capitalism, yet *DOME* chose the Springer company as a means of publication – certainly a weighty device in the dispositive which ties together mathematics education (and research in general) with Capitalism. Translating the proverb "pot calling the kettle black" into German, due to the lack of a direct equivalent, gives us "Those in glass houses shouldn't throw stones". This alternative (yet similar) proverb sheds a different light on the endeavour of critiquing the entanglement of mathematics education with Capitalism, despite a full awareness of the fact that oneself sticks knee-deep in this swamp as well (see the article of Baldino & Cabral in this special issue; and also Mesquita 2017). Maybe throwing the stone is a worthwhile attempt to break with "education as the construction of an intellectual cage" (Greer & Skovsmose 2012, p. 16) from within in order to interrupt trimming the parrot's wings (Tagore 2012). However, in order to find out how worthwhile this attempt is, the parrot who has thrown the stone against the glass kettle needs to demonstrate that he can actually use his wings once the cage is open, the lid off the pot, the house of glass in shards - or fly without wings.

Concluding his review of the DOME book, Bharath Sriraman (2017) writes that the potential of the book is to "engage [the reader] in self-reflection, and this, despite the nihilistic tone in much of the book, is also its redemption" (p. 5). The self-entitlement against which this special issue is to be measured is whether it can take us a step beyond self-reflection. Whether the book has actually created a space for thinking what has

before remained unthinkable. Whether promising alternative realizations of mathematics education research can emerge from the disorder. Besides contributions that actualize and expand the critique of the status quo of mathematics education research, this special issue thus sets an explicit focus on imagining new, experimental and radical forms of doing and presenting mathematics education research. In this special issue, the reader will find diverse strategies such as the use of comic, drama, comedy, aphorisms, dance or montage as emerging methodologies. Joining *critique*, *imagination* and *play*, this special issue can be considered an attempt to bootstrap the conditions of possibility for the scientific research you find in this special issue. Following Alain Badiou (2005), this special issue thus considers itself as a political intervention in the field of mathematics education: "The essence of politics is not the plurality of opinions. It is the prescription of a possibility in rupture with what exists" (p. 24). It aims at prescribing a possibility of mathematics education research in rupture with its current form of existence.

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How to (e)valuate the quality of research articles that deliberately break with the criteria that are currently available for judgment? How to deliberately break with a current regime of (e)valuation without yet having an established alternative available? If the answer is not scientific anarchy, these questions certainly point at a dilemma. Our attempt to resolve this dilemma in practice was to build on the implicit knowledge of scholars who have experiences in grappling with having to rely on scholarly regimes of (e)valuation, while simultaneously aiming at transforming or overcoming them. This implied that the peer-review process was characterized by a fundamental uncertainty, also (or particularly) on the side of the invited reviewers: How to judge an article that deliberately seeks to transcend the reviewer's expectations? How to make suggestions that help the authors to on the one hand make themselves understood by an audience used to certain conventions of communicating research and on the other hand stay true to the original and radical intentions? We therefore would like to thank all reviewers who have taken this challenge: Margret Walshaw, Anna Llewellyn, Eva Jablonka, Hillary Povey, Michael Otte, Snezana Lawrence, Uwe Gellert, Karen Francois, Susan Gerofsky, Christine von Renesse, Ole Skovsmose, Liz de Freitas, Hauke Straehler-Pohl, Candia Morgan, David Wagner, Felix Lensing, Mark Boylan, Sean Chorney, Alf Coles, Jehad Alshwaikh, Lisa Darragh, Tony Brown, José

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