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Vernacular: A montage of mathematical graffiti, quotations and commentary

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ABSTRACT:

Keywords: *Critical Mathematics Education, Mathematics, Vernacular mathematics, Graffiti, Montage*

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Readers looking for some explanation of the form of this work will find a discussion in the addendum. If you feel lost and demand guidance, please head there and read the first few paragraphs at least. Others may wish to read the addendum later. Still others (e.g. the adventurous, the feckless, dreamers) are encouraged to avoid the addendum altogether.

1 54 30 104 49 30

{A} “See these numbers painted on the end of the case?” “Yeh.” “Those numbers indicate the number of pieces that must be stuck in a minute. A two-foot tray must be stuck in 23 minutes. You ran five minutes over.” He pointed to the 23. “Twenty-three minutes is standard.” “That 23 doesn’t mean anything,” I said. “Whadda ya mean?” “I mean a man came along and painted that 23 on there with a can of paint.” “No, no, this is time-tested over the years and rechecked.” What was the use? I didn’t answer. “I’m going to have to write you up, Chinaski. You will be counseled on this.” I went back and sat down. Eleven years! I didn’t have a dime more in my pocket than when I had first walked in. Charles Bukowski (1992, p. 144)

¹ This might not even be graffiti. It was found on a wall in an industrial and trading estate in Manchester, England. The numbers look to have a purpose, perhaps an allocation of car parking spaces, but the numbers themselves make this unlikely. Perhaps you can think of meaningless numbers you have encountered in your workplace. Perhaps they even dominate your existence.

- {B} I mean, they call it Stockholm syndrome and post-traumatic stress disorder. And, you know, I had no free will. I had virtually no free will. Patty Hearst (CNN 2002)
- {C} Father wanted me to become an engineer, whereas I hesitated between pure mathematics, to which I was very strongly attracted, and Revolution, which little by little was taking possession of me. Every time this question arose there was an acute family crisis. Everybody looked depressed, and seemed to suffer intensely; my elder sister would weep furtively, and nobody knew what to do about it. Leon Trotsky (2012, p. 103)

² Etched on the door of a house due to be demolished in Manchester, England. A child (or two) is seen testing herself (or each other) outside school. A clear example of the Stockholm syndrome. The work illustrates a particular understanding of increasing mathematical difficulty, and the difficult transition to algebra. Or a 9 is drawn wrong.

3 10+10+

{D} One day two sisters, aged five and seven, said to each other: “Let’s play sisters.”...

In the game a situation is chosen that stresses the fact that these girls are sisters: they are dressed alike, they walk about holding hands – in short, they enact whatever emphasizes their relationship as sisters vis-a-vis adults and strangers. (Vygotsky 1967, p. 10)

{E} At just the age when we are most eager to learn, most receptive to new ideas and experiences, most curious, most carefree, energetic, and altruistic—at just this age we are forcibly confined by age group to a largely sedentary existence to be endlessly bombarded with purposeless verbiage. (Jones 2011, p. 367)

¹ In a doorway, Bolton, England, it appears a child has acted out being a teacher to some toys below (not shown here). An approximation of a typical illustration of volume sits next to, but with no obvious connection to, some incomplete addition sums.

4 Jesus

{F} From an early age I only wanted to deal with what I was sure of, and like all thinkers I soon came to distrust what could only be seen and touched. The majority believe that floors, ceilings, each other's bodies, the sun, etc., are the surest things in the world, but soon after going to school I saw that everything was untrustworthy when compared with numbers. Take the simplest kind of number, a telephone number, 339-6286 for example. It exists outside us for we find it in a directory, but we can carry it in our heads precisely as it is, for the number and our idea of it are identical. Compared with his phone number our closest friend is shifty and treacherous. Lanark (Gray 2007, p. 108)

² Under a motorway (Manchester, England). An interesting combination, perhaps reflecting shock or awe at the addition, or a numerical relation between man and god. Certainly however an equivalence is expressed, whether immanent, transcendent or, most likely, of an empty formalism.

5 8pm Tuesday

- {G} Just as the new time-sense of the merchants and gentry in the Renaissance appears to find one expression in the heightened awareness of mortality, so, one might argue, the extension of this sense to the working people during the industrial revolution (together with the hazard and high mortality of the time) helps to explain the obsessive emphasis upon death in sermons and tracts whose consumers were among the working-class. (Thompson 1967, p. 91)
- {H} Now the movement of the clock sets the tempo of men's lives - they become the servant of the concept of time which they themselves have made, and are held in fear, like Frankenstein by his own monster. In a sane and free society such an arbitrary domination of man's functions by either clock or machine would obviously be out of the question. The domination of man by the creation of man is even more ridiculous than the domination of man by man. Mechanical time would be relegated to its true function of a means of reference and co-ordination, and men would return again to a balance view of life no longer dominated by the worship of the clock. Complete liberty implies freedom from the tyranny of abstractions as well as from the rule of men. (Woodcock 1996, p. 398)

¹ Scratched in large letters on a wall in Aberdeen, Scotland. Near the docks. This is actually a colour photograph. It's just how Aberdeen is.

{I} [W]hat was a year, anyway; floating around the sun in the straight line, really, of a circle; it felt sarcastic to keep count—just mostly by accident, or else by momentum, by implication and solution of past things (like a math equation, trying to solve itself, as what was the world, the unstoppable mass of it, but one of those long division problems in seventh grade that went on, annoying and blameless, forever?).
Tao Lin (2007, p. 107)

² Next to Strangeways prison, Manchester, England. In 1990, on the day after a major riot in London over a hated 'poll tax', prisoners at Strangeways took over their prison and held it for 25 days in a protest against their conditions.

7 Sentence

- {J} The evident character of this defective cognition of which mathematics is proud, and on which it plumes itself before philosophy, rests solely on the poverty of its purpose and the defectiveness of its stuff. (Hegel 1977, p. 25)
- {K} [T]he film is only the sum of the facts recorded on film, or, if you like, not merely the sum, but the product, a ‘higher mathematics’ of facts. Each item of each factor is a separate little document, the documents have been joined with one another so that, on the one hand, the film would consist only of those linkages between signifying pieces that coincide with the visual linkages and so that, on the other hand, these linkages would not require intertitles; the final sum of all these linkages represents, therefore, an organic whole. Dziga Vertov (1984, p. 84)

³ Under a railway bridge, Salford, England. Arguably this too is mathematics.

{L} I'm sorry to say that the subject I most disliked was mathematics. I have thought about it. I think the reason was that mathematics leaves no room for argument. If you made a mistake that was all there was to it. Malcolm X (1968, p. 29)

Master W. D. Fard established in 1931 in Detroit a University of Islam. It had adult classes which taught, among other things, mathematics, to help the poor Negroes quit being duped and deceived by the "tricknology" of "the blue-eyed devil white man". Malcolm X (1968, p. 240)

{M} [I]n every individual act of the struggle so very many important economic, political and social, general and local, material and psychical, factors react upon one another in such a way that no single act can be arranged and resolved as if it were a mathematical problem. Rosa Luxemburg (2004, p. 198)

¹ Morecambe, England aka the seaside. Maybe a 9 is drawn wrong. Capture the experience of mathematics anxiety by imagining that a teacher has shouted your name and is demanding an immediate answer to this question.

9 Eight sixes

{N} [T]he axiom ‘A’ is equal to ‘A’ signifies that a thing is equal to itself if it does not change, that is, if it does not exist...

In the elaboration of baring-brass into cone bearings, a certain deviation is allowed for the cones which should not, however, go beyond certain limits (this is called tolerance). By observing the norms of tolerance, the cones are considered as being equal. (‘A’ is equal to ‘A’). When the tolerance is exceeded the quantity goes over into quality; in other words, the cone bearings become inferior or completely worthless.

Our scientific thinking is only a part of our general practice including techniques. For concepts there also exists “tolerance” which is established not by formal logic issuing from the axiom ‘A’ is equal to ‘A’, but by the dialectical logic issuing from the axiom that everything is always changing. “Common sense” is characterised by the fact that it systematically exceeds dialectical “tolerance”. (Trotsky 1976, p. 50)

¹ Of various origins, but mainly from the side of household bins. Not graffiti really but still vernacular. Some would call it six eights.

- {O} [T]here is no support in the real for the assumption that mathematics is important for the mundane activities of people... Researchers know that students do not use school mathematics outside school. (Pais 2013, p. 29)
- {P} The dialectic of Marx...forbids the isolated, i.e. one-sided and abnormally distorted, consideration of an object. Lenin (translation found in Blakeley 2012, p. 114)

² Found in Wythenshawe, a large working class housing scheme in Manchester. A student uses school mathematics outside school. Some support in the real for the assumption that mathematics can be important for the mundane activities of people e.g. quantifying desire. Maybe. Note that the author's initials appear here, perhaps by co-incidence.

11 Maths

- {Q} [T]he ideal of knowledge represented by the purely distilled formal conception of the object of knowledge, the mathematical organisation and the ideal of necessary natural laws all transform knowledge more and more into the systematic and conscious contemplation of those purely formal connections, those ‘laws’ which function in-objective-reality *without the intervention of the subject* [Emphasis in original]. (Lukacs 1971, p. 128)
- {R} [It is not] true that every motive in contradiction with the official ideology must degenerate into indistinct inner speech and then die out - it might well engage in a struggle with that official ideology. If such a motive is *founded on the economic being of the whole group...* then it has a chance for a future and perhaps even a victorious future. There is no reason why such a motive should become asocial and lose contact with communication. Only, at first a motive of this sort will develop within a small social milieu and will depart into the underground - not the psychological underground of repressed complexes, but the salutary political underground. That is exactly how a *revolutionary ideology* in all spheres of culture comes about. (Volosinov 1976, p. 89)

¹ On a school desk in Salford, England. The comment is, on one hand, incorrect. It is an overgeneralisation from the *school mathematics she has experienced, so far* to mathematics as a whole, which also unnecessarily reifies processes and relationships into a thing, just like mathematics does. Yet, it is also correct.

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Addendum: Notes on a lack of explanation

I am keen to offer as little explanation as possible for the above work. I can say that it is intended to be a meditation on mathematics inside and outside school and a critique of a) mathematics, b) mathematics education, c) mathematics educational research, and, d) critiques of mathematics education and mathematics educational research. The work also critique's itself and then critiques that critique (maybe). It is deliberately contradictory.

Montage aims to express a complex and contradictory reality through the formation of an organic whole made from the mutual mediation of fragments, the relationships between fragments, and the relationships between those relationships etc. (see, e.g., quotation {K}).

Montage also aims to encourage a more active role for the reader (see Swanson 2016, p. 240). The desire to avoid explanation is the desire to allow that free rein. In some ways the process is more important than the particular result but my reticence to explain is also based on the assumption that what you can make of the images, quotes and footnotes (they are not really footnotes) may be so much better than my intentions (see the director's cut of the film *Donnie Darko* (Kelly 2004) for an example of what can go wrong when montage is replaced by the author's perspective).

In a previous piece (Swanson 2016) I made a claim for the scientific as opposed to artistic nature of montage (p. 240). Here I lean the other way, but primarily in order to claim art's accepted right not to offer additional explanation of itself.

Vertov (1984) saw his film montage as counterposed to art (e.g. p. 56), as a revolutionary form, a form in the interest of revolution.

I realise there is a contradiction in, for example, laughing at the 'ficto-critical anthropologists' in the film *Maggie's Plan* (Miller, 2016) and then making this.

Other than Vertov, the key influences on the form of this work are Walter Benjamin's (1999) *Arcades Project*, John Berger's (2008) *Ways of Seeing*, and Gogol's (1972) *Diary of a Madman*.

It feels wrong to claim photographs of graffiti as your own art. They are really someone else's art. Here is my favourite example of graffiti as art:

Montage is arguably a form which allows the presentation of other people's art with sufficient additional intentionality and 'way of seeing' to go beyond the act of theft. But I would nevertheless like to acknowledge and thank the unknown creators behind all the individual images found here.

I would also like to thank Liz de Freitas, Ole Skovsmose, Shirin Hirsch, Lesley Stirton, Grace Lowe, Karen Adhemar and Ruby Hirsch for their helpful comments on different versions of this. If it looks at times as if I have ignored you or even done the opposite, you are wrong.

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