<u>A column redux</u>

April 24th, 2008

In the Fall 1994 issue of the **AMATYC** *Review*, I started a new column, **Notes From the Mathematical Underground**, with the following:

Since this is a new column, a *caveat* might be in order. As we all know, there currently is a "crisis" in mathematics education. (As has been the case, roughly, as far back as I can remember, which is, alas, quite far enough.) Since the latter involves mathematics, faculty and students, not necessarily in that order, this is where its origin must be sought and this is what I would like to do here. By definition however, faculty are above suspicion or, at least, will be in this column. Students being *the* given of the situation and, in any case, presumably not part of the readership, any discussion of how they *ought* to be would be futile and I will leave them mostly alone and not discuss pedagogy. This leaves mathematics and this is what I intend to discuss: No "how to do it", no sugarcoating by way "applications" or "math history" or whatever, no "high tech" religion. But mathematics does not exist in a vacuum and my distinguished colleagues will, of necessity, have to be considered as *parameters* in the equation.

It might have occurred to the reader that I left textbooks out of this equation and it is indeed fashionable in academic circles to deplore the state of the textbook art (Except among authors of course. See, for instance, Anton (1991)) and blame it for much of the educational fiasco. As publishers, though, are fond to point out, it is faculty who design the courses, who order the textbooks and who write them. Moreover, when they wish to be nasty, they are quite prone to listing all the non-conformist texts on which they say they lost their corporate shirt.

Which brings me, precisely, to the main issue that I intend to pursue here, that of the alternatives to the *mathematical* underpinnings of our teaching. One way then in which I would like to do this is to discuss textbooks that didn't make it as mainstream texts because, presumably, they were "too different". Here, I mainly think of calculus texts such as those by Levi, Keisler, Strang, Flanigan-

Kazdan, Freed, etc. I would also like to discuss ideas that briefly appeared in texts but were dropped in subsequent editions—when there was one, such as Munroe's definition of variables or Gillman-McDowell's definition of the integral. There are also very simple ideas, such as Lang's treatment of the transcendental functions or that of Finney-Ostbey, that appear in more advanced texts but which, somehow, never made it to "elementary" textbooks .

Fast forward to this day, April 24, 2008.

I don't think I have to change a word of the above. I should, though, add a cautionary explanation.

In the Spring 2003 issue of the Notes From the Mathematical Underground, I wrote:

This is Part I of the last of my Notes From The Mathematical Underground[1] which I would like to devote to another major subject of enquiry in mathematics education, one as important as *content analysis* and just as ignored, namely *language analysis*.

[1] I would hope though that, even in these severely conservative times, some sort of Mathematical Underground will survive.

And, indeed, the column came to an end with the Fall issue. This was because I had embarked on a new project of which this very site is the logical extension. (See: <u>About the author</u>)

But, I am a polemicist at heart. And while I am having fun with the "inflammatory" footnotes in the texts on, or to be on, this site, I was missing the format of the column. Hence the logical extension of the site to include this blog which I saw no reason not to call ... Notes From The Mathematical Underground.

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