Re: JSH: Newsgroups mistakes, updated explanation and proof

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- *From*: magidin@xxxxxxxxxxxxxxxxx (Arturo Magidin)

- *Date*: Thu, 19 Apr 2007 14:52:03 +0000 (UTC)

In article <1176988391.700569.254610@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>,
Rupert <rupertmccallum@xxxxxxxxx> wrote:

[...]

> Can you name a single mathematical success you've ever had?

To speak out here, it seems likely that James independently rediscovered the inclusion−exclusion method for counting primes up to a given number x.

As was pointed out to him at the time (I believe by Odlyzko in an e−mail he gleefully quoted then), about 20% of all grad students in math rediscover the method independently (though this part of the e−mail seems to have been forgotten when he recalls now his conversations with Odlyzko). One should not belittle this rediscovery. It was without a doubt a mathematical success.

(The actual history is somewhat muddled, since he offered a sequence of polynomial approximations, ever more complicated, as "the prime counting function", only to suddenly make a quantum jump from the polynomial approach to the recursive, inclusion−exclusion method. That process certainly gave me the impression he might have obtained the latter from somewhere at the time; but I think now this was not the case. James's competence in reading other people's mathematics would seem to make that possibility very remote. Rather, I suspect he played with approximations based on the inclusion−exclusion method, kept obtaining more and more terms on the polynomial, and as each was shot down in succession he eventually realized that he needed to keep the entire thing (in recursive form) and not try to get a "polynomial" out of it.)

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"It's not denial. I'm just very selective about
what I accept as reality."

−−− Calvin ("Calvin and Hobbes" by Bill Watterson)
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Arturo Magidin
magidin−at−member−ams−org

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