FROM TIM GOWERS' BLOG, September 15th 2007

This entry was posted on September 15, 2007 at 10:31 am and is filed under Mathematics on the internet. You can follow any responses to this entry through the RSS 2.0 feed. You can leave a response, or trackback from your own site.

Alternative maths reviews

Here's another idea for a wiki-style website, one that might bring closer the day when mathematicians ceased to bother about print journals. It's a site where people can post reviews of mathematical papers. Such a site, if it did what I have in mind, would have one disadvantage and two advantages over Math Reviews. The disadvantage, which is also one of the advantages actually, is that by no means every paper would be included. If you want a list of all published papers in mathematics, then Math Reviews (or Zentralblatt) does the job very well. However, it's not really a site where one would browse for fun, and part of the reason is that all papers are given equal status, so if one is looking for an interesting paper one has to look amongst a whole lot of uninteresting ones. With a bit of skill and prior knowledge one can find interesting things of course, but that's not really what I'd call browsing, in the sense of just having a look at what's there and finding all sorts of gems.

But the main point of the new site would be to be a forum for telling people why papers were interesting. It would of course include things like the papers of Wiles and Taylor/Wiles on Fermat's last theorem, but the most useful entries would be on papers that were not world famous in that way. Rather, if you wanted to contribute to the site, you would choose a paper in your area that you particularly like and write a little essay about where it fits into the area, what the ideas inside it are that so appeal to you, why its results are useful (if they are), and so on. If the paper doesn't have a nice long introduction, you would give it one—much longer than would ever be published in a journal. Ideally, such a review should be written in a way that a new entrant to the area in question could understand: the imagined audience would be a beginning graduate student who had not necessarily taken advanced courses in the area.

To avoid the site filling up with junk, one obvious ground rule is that people should not write reviews of their own papers: part of the idea is that if a paper was reviewed then it would be an indication that it was of genuine interest to other people. Perhaps another rule might be that papers were not included until they had been around for a little while (at least in preprint form). But perhaps that's a bad idea, as it could be quite useful to know why very recent papers are significant. Another decision would be whether to have a rating system, either for the reviews or for the papers. For instance, it could be quite useful for the reader to know in advance that the reviewer (or rather, the average reviewer—I imagine people making edits to reviews) considers the paper to be a gorgeous result that doesn't actually open up new avenues of research, or an innocuous-looking lemma that turns out to deal with a difficulty that occurs all over the place, or a set of definitions that makes an entire area of mathematics easier. This could be contained in the text, but perhaps also in some kind of grading system for the help of people who want to browse quickly. As with the tricks wiki, this general idea seems as though it ought to be fairly easy to implement, and could lead to a very useful resource. But again I'd be interested to know other people's ideas about the details of how precisely it should work.

Thinking about it slightly more, I notice a difficulty that needs to be addressed. It's not enough to stop people reviewing their own papers—they must also be stopped from editing other people's reviews. In the end I think a modification of Amazon's system of book reviews might

be best: authors control reviews; they also give ratings; there can be several reviews of the same paper; there is a facility for others to say whether they found a review helpful; there is also a facility for people to suggest changes to reviews, which the authors are encouraged to implement if they are sensible ones.

Just to finish, let me explain why I think it could hasten the end of print journals, at least for the majority of papers. It's that if it became very successful, and if appropriate safeguards were in place (but I'm not sure what they would have to be), then it might be more impressive on a CV that a paper had been given a mega-important rating by seven people, whose reviews (which helpfully explained to a job committee why the paper was interesting and important) had been found helpful by many others, than that it had appeared in Inventiones. Possible problems with that of course, but I throw it out anyway.

Marie Farge Says:
September 22, 2007 at 12:50 am | Reply
I like this proposal: you write reviews only about papers you like, to share your enthousiasm with others. If you do not like a paper, you should not waste your time explaining why you don't like it. As a result, there will be no negative review and, since dull papers will not be reviewed, they will fade away without any action being needed. Concerning papers where you find some mistake, the gentleman's practice is to contact the author(s) and keep the debate private.

The burden today is the huge number of papers which are published and that no one (or few) takes the time to read (besides the referees who are bound to do so). Developing the practice of review at large scale and in an open way is certainly an excellent direction where we should go. This practice has a long history in arts and literature, known as 'la critique littéraire' (literary criticism). The beauty of the present proposal is that, instead of being critical, it is supportive. Let us call it 'la recommandation mathématique' ('the mathematical recommendation' may be an appropriate translation).

It is time to take this very seriously: the number of publications increases while the time avalailable to sit quietly and read them (without being interrupted) decreases, therefore we will soon reach a point where the time spent for reading the papers published in our field will tend towards a set of measure zero. The practice of the 'mathematical recommendation' may be a way to overcome this obstruction, and I do not see any objection for not trying to work it out.

gowers Says:
September 23, 2007 at 11:30 pm | Reply
Dear Marie,

Good to hear from you, and I'm glad you like the idea — I'm quite serious about trying to do it when I have just slightly more time (and a bit of help, which has already been offered). Watch this space …

Best wishes,

Tim