News

viXra.org Is One Year Old on July 9, 2010

Philip E. Gibbs*

Abstract

Happy birthday viXra http://vixra.org. It is one year since we started posting papers online including many that arXiv refused to accept. Thank you to everyone who has supported us in many ways. This especially includes all those who submitted their work, plus everyone who has provided links to our site or written blog articles in support, and thanks to many others who have helped in numerous other ways.

Key Words: viXra.org, birthday, one-year old.

June 9, 2010: Good Math, Bad … Logic

Mark C. Chu-Carroll is a computer scientist who runs a blog "Good Math, Bad Math". The tag line is "Finding the fun in math, Squashing bad math and the fools who promote it". A quick browse through his recent posts show that he is not finding much fun for us and spends most of his time trying to debunk people he regards as fools.

In his latest post Gravity, Shmavity. It's the heat, dammit! he goes all out to declare every submitter to viXra.org a crank. This is what he says:

"I have to point out that it's on "viXra.org". viXra is "ViXra.org is an e-print archive set up as an alternative to the popular arXiv.org service owned by Cornell University. It has been founded by scientists who find they are unable to submit their articles to arXiv.org because of Cornell University's policy of endorsements and moderation designed to filter out e-prints that they consider inappropriate.". In other words, it's a site for cranks who can't even post their stuff on arXiv. Considering some of the dreck that's been posted an arXiv, that's pretty damned sad.)"

In the comments he goes on to confirm his view:

"There are plenty of people in the world who aren't interested in understanding why they're wrong. They're absolutely sure that they're right, and there's absolutely nothing in the world that's going to convince them otherwise. Anyone who posts to viXra is almost, by definition, guaranteed to part of that group. The reason that people post things to viXra is because they don't want to deal with the standards of arXiv."

There have been a few anonymous comments on other blogs and forums promoting this view with very similar language so I am glad that he has finally put his name to them, giving us a chance to debunk the debunker. Clearly he has not read what I have written about why viXra.org was formed

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and how it operates, or perhaps he just does not understand anything beyond his blinkered worldview. His statements are utterly misleading and as bad as the examples of bad math that this blog attempts to debunk.

The ability to post on arXiv is mostly dependent on working for an accepted institution or having the backing of someone who does. This is only indirectly correlated to the quality of what is being submitted. That is why a significant amount of "dreck" can be posted on arXiv. It also means that some people who do good science cannot submit there and use viXra instead. A lot of papers submitted to viXra.org have been accepted in peer-reviewed journals.

viXra operates by accepting all papers to ensure that everyone has a chance to archive their work regardless of who they are or who they know. Only a fool with no sense of logic would pick out a few examples of bad papers and conclude that this then applies to the whole lot.

The history of science is littered with stories of researchers whose work was ridiculed or ignored for years before being recognised as a breakthrough. Many Nobel Prizes have been awarded to work that started that way. You can follow our series of posts at http://blog.vixra.org/category/crackpots-who-were-right/ for some examples. If you are going to set yourself up as someone who debunks bad maths and science you had better make sure you apply the highest standards of logic otherwise you may go down in history as someone who ridiculed good science. By calling everyone on viXra a crank Mark C. Chu-Carroll has virtually guaranteed that fate for himself.

What of the paper that Mark attempts to debunk? Well it possibly has some errors, but if it also has some worthwhile observations it would not be the first paper containing good science that was ridiculed for its mistakes. Famous examples include Georg Ohm's work on resistance which was rejected because of its failed attempt to explain his experimental law theoretically, or the popular book by Robert Chambers that prepared the public for the theory of evolution before Darwin, while scientists just picked holes in his terminology. If you are going to debunk something you should make sure that you are not missing the point of it. The idea that gravity may be linked to thermodynamics is currently a hot topic in physics so to ridicule a paper that works on that idea may not be very timely, even if the overall standard of the work is not the highest.

Let's look at a few of the things that Mark says as he tries to debunk this paper:

"As evidence of this, the author claims to show how heating a copper sphere changes its apparent mass!"

Of course every student of relativity knows that heating an object *does* increase its mass according to the most well-known equation in science $E= mc^2$. The amount in this case is about 4 nanograms, not the 20 grams suggested in the paper, but Mark is not just quibbling about the amount, he is ridiculing the whole idea that an objects gravitational mass changes as it is heated, yet it does. If you are going to debunk something it is important to debunk it correctly.

Another phrase Mark uses is *"Mass, which at non-relativistic speeds is effectively constant …"* This makes it clear that Mark's knowledge of relativity comes from popular books where increasing mass with speed is often used as a cheap way to explain why objects cannot be accelerated to light speed. In professional scientific papers physicists always regard mass as an invariant of velocity. If you think I am being hard on him you can check what he admits in a previous post:

"I've read a couple of books on relativity, and I don't pretend to really fully understand it. I can't quite wrap my head around all of the math. That's after reading several entire books aimed at a popular audience."

With all due respect Mark, if your knowledge of physics and your command of maths is so poor then you are not the right person to be debunking any scientific work.

As Mark observes about himself

"There is the danger of screwing up ourselves. I've demonstrated this plenty of times. I'm not an expert in all of the things that I've tried to write about, and I've made some pretty glaring errors. I do my best to acknowledge and correct those errors, but it's all too easy to deceive myself into thinking that I understand something better than I actually do. I'm embarrassed every time that I do that."

Well Mark, if you are having so much difficulty it may be better to stop the negative posts and try to do a few more of the "fun" ones about good maths.

This kind of thing would be less sad were it not for the fact that Mark's comments around the blogosphere have a serious impact on people's willingness to use viXra. The meme that viXra.org is for cranks discourages many scientists and mathematicians from using it when they do not have access to arXiv.org. A quick check through our database reveals 143 out of 1065 submissions to viXra.org have comments indicating that they are published in peer review journals. That is not a bad rate considering we have been going for less than a year and it can take many months to get a paper published. Most people do not update the comments when a paper is finally accepted.

I notice that Mark works for Google as a computer scientist which makes me wonder how many other people there are under the illusion that they understand the scientific process despite such a poor grasp of science themselves. It is no longer a surprise to me that Google do not index viXra.org in Google Scholar despite having more than a 1000 articles. That puts it in the second largest category you can select on their submission page. They claim that if you are a publisher of scholarly works and would like to have your content included in Google Scholar, then your content is welcome. viXra.org was submitted as a site some months ago but they still only include articles that are cited from other sources. Clearly their welcome is not for all. Now we get an idea why that is.

June 23, 2010: Why Do We Still Have the Old System of Peer Review?

The scientific publishing industry is dominated by some big profit-making organisations who are apparently not well liked but are still embraced by the scientific community. Every now and then one of the publishing houses tries to raise its subscription prices by a zillion percent, there is a big outcry from the university libraries and finally they settle for a mere yillion percent and everyone carries on. Why is this?

The answer seems to be that the publishing businesses are quite clever. They bundle journals and sell them to libraries rather than individuals. These days the subscription includes electronic access. Few scientists now pop over to the library to get down a volume of a periodical, they look it up online instead. If the subscription is stopped the research centre loses electronic access to all the past issues as well as current ones. It is just not possible to give that up, so they pay up instead.

Scientists have tried to combat this by setting up their own open access journals and some of these are working quite well. But now there is a concept of impact factor that measures how good a journal is according to how well cited its articles are. The most prestigious journals can afford to filter our submissions that are not likely to get many quick citations so they keep their impact factors high. The impact factors are used to measure how good people's publication histories are when they look for a new position. This creates a feedback loop that makes the big publishers very powerful.

So is peer review needed? If so, should it, and can it be wrestled from the grasp of big business? could it be done differently? Over at Quantum Diaries Survivor, Tommaso Dorigo informs us that he is due to give a presentation on such questions and he wants to know what we think. The comment section has some interesting discussions.

These days everyone with access to the internet can publish online without peer-review. if they are excluded by arXiv.org they can use viXra.org and of course there are many other archives that scientists use, or they can just publish on their own blog. But these are not regarded as real publications by the scientific community until they have been peer-reviewed. Despite the internet, the system is still based on the principle that you can "publish" when and if you pass the test of peer review. Peer-review is still important primarily because careful verification is essential (especially in mathematics, experimental physics, medicine etc) but also because of the role peer-review plays in assessing the worthiness of scientists when it comes to job promotion. The ability to make your work available as a pre-print before peer-review exists only as a compromise because the publication process is otherwise too slow for many fast-moving areas of research. Of course, not everyone sees it that way. That's just one traditional view.

The existing peer-review process is imperfect in many ways aside from its cost. Good papers are rejected by peer-review and this has a real effect on the pace of acceptance. A good case study would be the science of climate research where some people argue that peer review has become corrupted and is biased towards one side of an important scientific debate. (see e.g. what Lubos writes at Reference Frame)

In a perfect world things would be done very differently. Repositories like arXiv and viXra would become the publishing medium and peer-review would become an open and public process of critical review by relevant experts. One simple approach would be to have ratings for articles using a system like Digg. This works nicely for news articles and is a good way to filter out stuff of little interest, but it is far short of peer-review. By the way, there is a site called scirate.com which allows you to rate articles on arXiv in this way but it demonstrates one of the most basic problems with these approaches: It is very hard to get anyone interested. Another site that suffers the same fate is arXiv1.org where you can freely make comments on arXiv papers, but very few people do. Another system that almost works is the trackback system where blog comments are recorded on arXiv itself, but the comments are moderated in a way that some think is biased, so it does not qualify as any kind or review. Citation counts form another indicator that is used, but they usually trace back to positive responses. Peer-review also needs to be negative when appropriate

A proper system of open peer review would have to go beyond basic rating and commenting. The process needs to come to some kind of consensus about the validity and general worthiness of a paper. The people who do the reviewing need to be experts on the subject. This means you need a system of identifying experts. This can be done by looking at their qualifications and position to classify their areas and levels of expertise, but that would be open to bias and the corrupt rule of authority, precisely what we want to avoid. A more open system might allow anyone to review and

rate a paper, but the ratings would be weighted according to the reviewer's reputation which is earned according to the ratings of their own papers in the same subject area. Could such a system work or is it just a Utopian dream? This is the question we discussed over at Tomasso's blog with some interesting comments but no real conclusion.

There is no doubt that such a system would be hard to get working. You would have to overcome the reviewers reluctance to criticise in public. The existing peer-review system is mostly anonymous and for a good reason. Scientists are human and don't want to be attacked for their negative reviews. If the process is not anonymous they may not be willing to air their criticism. This is a real issue but anonymity and privacy in the peer-review process also make it hard to challenge a review. The system takes on various forms of corruption, for example, journal editors have a lot of power to influence the peer-review process either by directly affecting the result or by selecting reviewers who they know will be for or against the article. This works in both ways, either creating journals where a group of people can publish low quality research, or excluding a valid opposing view to an area of research. More openness where the reviewers judgement can be further criticised in public should be an important goal. This does not necessarily mean that anonymity must be given up. That could remain as an option. It is really the privacy that creates the problems.

It is understandable that there is skepticism about the possibility of establishing a working system of open review. It is hard to get people interested, However, there are some websites that indicate that this problem is not insurmountable. Despite the initial odds, Wikipedia has established a huge system for building works of reference that attracts considerable expertise in many areas. Wikipedia specifically excludes original research and is not a suitable system for peer-review, but it shows that the right people will get involved if a system has the right features.

Another system that is closer in some ways to what we seek is stackoverflow.com and derivative sites such as mathoverflow.net. These are sites for submitting questions in a particular subject area. That is very different from the requirements of peer-review, but the rating system used is getting close to something that might work. On these sites questions are rated and so are answers. People can also comment on answers so anything can be challenged and this feeds back into the rating. People build up reputations according to how well their answers are rated and the reputations increase their rights to rate questions. There are also moderators who are elected democratically with reputation being an influence. These moderators can shut down off-topic discussions. Not only does this system generate a high level of discussion, it also attracts some well-known experts in the field to make contributions. A peer-review system would be something on a grander scale but the principle might be similar and the evidence is that it could work if the details are right.

The technology on which to base such a system exists. Many archives adhere to the Open Archives Initiatives which means they have an API so that you can query them and integrate them with other repositories into conglomerate systems. A peer review website could work that way. There would be no need to start a new repository for the purpose . Despite Lubos's flattering suggestion over at AQDS, it is not likely to be me who makes the first attempt at building such a system. It requires more than the technical expertise of one person I think. A small group with the backing of some big organisations would be more suitable.

Meanwhile I am looking forward to hearing what comes out of Tomasso's presentation. He is a smart and reasonable person so perhaps he can kick-start something that will grow to be the future of peer-review. I just hope it will be a system that is open and not doomed to a fate of elitism and

corruption. I hope it promotes honest scientific progress without stifling a valid new approach just because it does not fit the prevailing dogma. We can only hope.

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July 11, 2010: They Call Me a Crank Now

You may recall how I had to refute the claims by Mark Chu-Carroll on his blog "Good Math Bad math" that everyone who posts on viXra.org is a crank. When I was asked for a counterexample I pointed to my own contributions. He failed to find any fault in my work but never admitted his error either. Since then he tried to take my advice to concentrate more on the "good math" but he has recently stopped the blog altogether citing dissatisfaction with the policies of scienceblogs.com

Mark Chu-Carroll is a computer scientist working for Google. Somebody pointed out that it always seems to be computer scientists who think they can debunk "crank science" even though they have little expertise in the subjects under question. Another example of this has now surfaced over a rationalwiki.org, a whole wiki site dedicated to debunking bad science and criticising religion.

Rationalwiki now has a section about viXra on their arXiv entry page that currently reads as follows:

"The cranks, not wishing to put up with this sort of thing, started a competitor: ***viXra****, "founded by scientists who find they are unable to submit their articles to arXiv.org because of Cornell University's policy of endorsements and moderation designed to filter out e-prints that they consider inappropriate."[1] Given some of the lunacy available on arXiv, we'd like you to just pause for a moment and contemplate what sort of content viXra accumulates. The scientific world is mostly amused.[2]"*

The second reference to "the scientific world" is linked to some anonymous posts on scienceforums.net. This is typical of the quality of citation used by rationalwiki to back up its claims.

Since I am the guy who started viXra, this means that I am being called a crank again, sigh. For the record I have a first class degree in mathematics from the University of Cambridge and a PhD in physics from the University of Glasgow. I was a double silver medal winner at the International Mathematical Olympiads of 1977/1978. I have authored a number of articles in the Usenet Physics FAQ. I was also a Senior Vice President in the Fixed Income Analytics department of a major investment bank up until my retirement. Despite my relatively short time in academia I have 10 publications in peer-reviewed journals, 4 of them were published while working as an independent scientist. Two of my physics papers are listed in the TOPCITE 50+ section of SPIRES. One of them was published in 1986 yet it is still read and had its 50th citation this year. A number theory paper I published independently in 2006 has 36 citations. I also had 14 submissions accepted into arXiv.org before they introduced their endorsement policy that prevents me from using it further. One of my physics papers in arXiv.org has 47 citations according to Google Scholar, despite never being

published elsewhere. OK, these things are nothing outstanding, but they are not the hallmarks of a crank either and I had never been called a crank before starting viXra.

So who is the genius who has identified me as a crank now? Apparently it's some guy called David Gerard who works as a sysadmin in London. I wonder if such idiocy will ever cease.