



The Gates Scholar

University of Cambridge



Postpub.org

Helping scientists reproduce!

Scientific understanding progresses through incremental steps, and experimental results have to be reproduced after first broadcast (particularly in the variable world of the life sciences). The post-publication process currently lacks coherence, resulting in unnecessary duplication of work and frustration for experimentalists. Here is a description of why, and what we think can help.

When a scientific discovery occurs, the first step is to compile a set of experiments that support the idea to write a paper and send it to a journal. At the journal, the process of peer-review is the current gold standard for assessing a manuscript's scientific merit for publication. The published discovery is then read and assimilated into general thinking.

Here's the catch. In the competitive world of 'get your paper out asap', many scientists do not have the luxury of waiting to confirm a discovery from every possible angle. There is always a possibility that the results obtained may not hold true for different as yet untested circumstances. Hence the need for other labs to try and reproduce what has been published; to ascertain if it is a general truth, rather than a specific one. However, independently repeated experiments confirming, colouring, or contradicting published work are often not published, being not sufficiently 'significant' to make a paper in their own right. This is where we sense an opportunity to use the web to help use this untapped resource to advance scientific discussion.

Two years ago, a group of Gates scholars sitting at brunch at The Snug were discussing this issue. A lot of new biology was published every day, and not all of it could be taken at face value because biology was variable and there was no way of knowing if experiments were reproduced elsewhere. This information could be crucial particularly for young scientists deciding on the course of a body of work that depends on existing knowledge

We decided that it would be good to come up with a repository for repeated data on a published experiment. In a joint effort with colleagues at UCL, Columbia, and Yale, we designed www.PostPub.org, a web 2.0 environment with a companion facebook application that provides identity-verified, results-driven, experimentalist-centric platform focusing on reproducibility and methodology of published

biomedical literature- to facilitate organization of the post-publication process (post-slug didn't really have the same ring to it). This would be different from all 'dumping grounds' for negative data available on the internet, as it would only be for repeated versions of a published experiment (both negative and positive), and completely non-anonymous; thus less ad hominem!

We also hope for this venture to directly involve experimentalists in the post-peer review validation phase of modern science. Currently,

why the difference is seen. Other members of PostPub.org add to this, if they have data that is relevant, and a thread is built that could be as valuable to anyone in the field as the original publication was (admittedly not peer-reviewed, but community reviewed- much like the Wikipedia concept). All someone planning out an experiment that is based on published data need do, is check PostPub.org to see if there is any follow up to it! We see this having an impact on the money currently spent in duplication of data at different sites around the world.

To summarize our progress, we have recruited a board of advisors, won the second prize in the Y50K '07 Yale Business Plan Competition, used the \$4,400 prize to hire developers for the main site's front-end and its Facebook application, and submitted an application to the IRS for 501(c)3 (non-profit) status. The facebook application is a networking tool accompanying the site, and is ready and available. It allows scientists to get to know what their friends' interests and publications are, and links to the main site for more in-depth discussions.

With the assistance of developers in India and the US, we have been battling time zones and busy PhDs/post-docs to work on this, and are now pleased to announce that www.postpub.org will be launched by the end of this year. So if you're a biologist and a laboratory experimentalist with data that's lying around in your desk, here's your space to do something with it. Watch this space and see you soon on PostPub.org!

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