

## Peer review is a thankless job. One firm wants to change that

*Publons wants scientists to be rewarded for assessing others' work*

AS SCULPTURES go, it is certainly eye-catching. On May 26th a small crowd gathered outside Moscow's Higher School of Economics to watch the unveiling of a 1.5-tonne stone cube shaped like a six-sided die. Its five visible sides are carved with phrases such as "Minor Changes", "Revise and Resubmit" and "Accept". Called the "Monument to the Anonymous Peer Reviewer," it is, as far as anyone can tell, the first such tribute anywhere in the world.

Peer review underpins the entire academic enterprise. It is the main method of quality control employed by journals. By offering drafts of a paper to anonymous experts, poor arguments or dodgy science can be scrubbed up or weeded out.

That is the theory. In reality, things are murkier. Anonymity makes peer review unglamorous, thankless work. That matters, for these days scientists are under relentless pressure from universities and funding bodies to publish a steady stream of papers. Anything that distracts from that goal—including reviewing the research of others—could mean forfeiting grants or career advancement. Perhaps unsurprisingly, studies suggest many reviewers do a poor job of spotting shortcomings in the papers they are critiquing.

One solution is to make peer review more desirable and less of a duty. That is the idea behind Publons, a firm which allows scientists to track and showcase their peer-reviewing contributions. It has just been bought for a tidy sum by Clarivate Analytics, which runs Web of Science, an index that tracks how often researchers cite each others' papers. Scientists who sign up will get a verifiable, trackable measure of their contributions. Their reviews will even be given their own "DOI" numbers, unique identifiers currently used for keeping track of papers.

The hope is that once scientists can quantify their reviewing work and boast about it on their CVs, universities and funding bodies will take it into account when handing out promotions or cash. Making scientists keener to review papers could also speed up publishing, says Andrew Preston, one of the firm's founders. At the moment, much of a journal editor's time is spent tracking down potential peer reviewers, then badgering them to contribute. By making reviewing more attractive, hopes researchers might start volunteering instead. Since Publons's founding in 2012, more than 150,000 researchers have signed up, writing more than 800,000 reviews.

The firm hopes to shake up the system in other ways. Reviewers can choose how much information to reveal, and in what context. So a review of a colleague's paper might appear anonymously in the journal concerned. But reviewers' names could be reattached when it is time for performance appraisals, giving their bosses proof of the extra work. And while traditional peer review is done before publication, Publons also allows reviewers to assess a paper after it has been published.

Such "post-publication" peer review is already common on websites such as arXiv, where physicists and mathematicians post early versions of papers that will later be published in journals. The extra scrutiny may catch problems other reviewers have missed. Mr Preston points to a paper published in October in *Nature* called "Evidence for a limit to human lifespan". It passed traditional peer review. It has a very high "Altmetric" score, which measures how much attention it has gathered in the press and on social media. But Publons's reviewers do not rate it. Six post-publication reviews give the paper an average score of 4.7 out of 10, claiming concerns with the way it analysed its data.

Another goal is to fight fraud. In April Springer, a big American publishing firm, retracted 107 papers from *Tumor Biology* after discovering that the authors had tricked the journal's editors into soliciting reviews from fake e-mail addresses, which invariably offered glowing reviews. Having acquired Publons, Clarivate hopes that linking researchers' citation records with their records as reviewers will make it easier for journal editors to select reliable reviewers and harder for duplicitous authors to deceive them. (Such services are how Publons, which is free for researchers to use, hopes to make money.)

The Moscow sculpture honouring peer reviewers was paid for by an online crowd-funding campaign. On its tongue-in-cheek website, it quotes Andre Geim, a physicist who won a Nobel prize in 2010, saying that peer reviewers are “unsung heroes of science” who do their work “out of a sense of responsibility”. That is admirable. But as any student of the Higher School of Economics could tell you, self-interest can be an even stronger motive.