RESEARCH NOTE

The Open Science Peer Review Oath [version 1; peer review: 1 approved, 4 approved with reservations]

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as part of the AllBio: Open Science & Reproducibility Best Practice Workshop

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Abstract

One of the foundations of the scientific method is to be able to reproduce experiments and corroborate the results of research that has been done before. However, with the increasing complexities of new technologies and techniques, coupled with the specialisation of experiments, reproducing research findings has become a growing challenge. Clearly, scientific methods must be conveyed succinctly, and with clarity and rigour, in order for research to be reproducible. Here, we propose steps to help increase the transparency of the scientific method and the reproducibility of research results: specifically, we introduce a peer-review oath and accompanying manifesto. These have been designed to offer guidelines to enable reviewers (with the minimum friction or bias) to follow and apply open science principles, and support the ideas of transparency,

Open Peer Review

Approval Status ? ✓ ✓ ✓ ✓ ✓

	1	2	3	4	5
version 2					
(revision)	?	✓	✓		✓
09 Jan 2015	view	view	view		view
	↑	↑	↑		↑
version 1					
12 Nov 2014	?	?	?	✓	?
	view	view	view	view	view

- Vitaly Citovsky**, University of New York at Stony Brook, Stony Brook, USA
- Christopher D Chambers**, Cardiff University,

reproducibility and ultimately greater societal impact. Introducing the oath and manifesto at the stage of peer review will help to check that the research being published includes everything that other researchers would need to successfully repeat the work. Peer review is the lynchpin of the publishing system: encouraging the community to consciously (and conscientiously) uphold these principles should help to improve published papers, increase confidence in the reproducibility of the work and, ultimately, provide strategic benefits to authors and their institutions. Future incarnations of the various national Research Excellence Frameworks (REFs) will evolve away from simple citations towards measurable societal value and impact. The proposed manifesto aspires to facilitate this goal by making transparency, reproducibility and citizen-scientist engagement (with the knowledge-creation and dissemination processes) the default parameters for performing sound research.

This article is included in the **Research on Research, Policy & Culture** gateway.

Cardiff, UK

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Any reports and responses or comments on the article can be found at the end of the article.

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Competing interests: MM is currently employed by *F1000Research*. His role at the journal does not include any involvement in the pre-publication editorial checks, or with the refereeing process.

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Introduction

An essential part of the scientific method is that researchers can repeat the experiments of others and test the outcomes themselves. To achieve this requires accurate reporting not just of the results of those experiments but also of the methods that underpin them. However, as science becomes more technology-driven, the equipment used is more specialised, the data generated is harder to represent in traditional media, and reporting how experiments were performed so that independent researchers can repeat them gets progressively harder. Reproducibility in science is a hot topic and a concerning one; indeed, several commentators have concluded that fallibilities in the way that research investigations are currently conducted, and how their results are disseminated via article publication have become detrimental to the scientific process¹⁻⁴. The difficulties in ensuring reproducibility are multi-faceted: the problems are systemic. Policy makers, funding agencies, academic institutions, scientific publishers, scientists themselves and the vehicles through which they publish each contribute to a complicated web of issues that conspire against the publication of reproducible results⁵. Various measures have been proposed to try to combat these problems, ranging from top-down strategies through government initiatives⁶, to bottom-up strategies such as providing checks and balances for research integrity during the publishing process⁷. Measures like this tend to come with their own problems and, in some cases, can provide further barriers to reproducibility⁸.

One way in which reproducibility issues can be tackled is through the implementation of open science and open data practices^{9,10}. As attendees of the [AllBio: Open Science & Reproducibility Best Practice Workshop](#), we discussed how principles of open science could be instilled into the current research workflow; as part of this debate, we tried to identify ways in which reproducibility might be improved.

One route into this workflow is through the peer review process. Peer review is an important gatekeeper and a key part of scientific discourse. Before any research findings can be formally accepted, they must be evaluated and commented upon by peers (experts in their fields), who then provide advice about the quality or validity of the work to Editors, or in the case of open peer review and post-publication invited peer review systems, to the readers themselves. Importantly, peer review happens at a personal rather than institutional level and is carried out by individuals; it is therefore an ideal mechanism for getting a message across to the majority of researchers given everyone peer reviews or is peer reviewed. Of course, the peer-review process is not infallible^{11,12}. The issues are many and varied, including the time available to perform thorough reviews, reviewers' expertise, journals' perception of relevance/interest/impact, and so on. Arguably, one of the most significant problems – certainly the one that generates most friction – is that reviewers can safely dispense self-serving and biased critiques, fully protected by the mask of anonymity.

Scientists have become sufficiently frustrated by these issues to devise *ad hoc* solutions to help safeguard the quality of reviews and allow reviewers to affirm that they will review in an ethical and professional way, and encourage clearer review processes. This has led to the articulation of various forms of reviewer's oath (e.g. 13–15).

It is these that inspired us. Building on this work, we have formulated an oath that codifies the role of reviewers in helping to ensure that the science they review is sufficiently open and reproducible; it includes guidelines not just on how to review professionally, but also on how to support transparent, reproducible and responsible research, while optimising its societal impact and maximising its visibility. We suggest a mode of *constructive dialogue between respectful individuals*.

The new oath is accompanied by a manifesto that develops the principles set out in the guidelines, and provides further direction for upholding responsible and interactive reviews, as well as the necessary information for other researchers to reproduce the results. A key tenet is that the oath is not meant to be burdensome or to cause friction between reviewers and authors; in fact, their cooperation could improve the accuracy of reviews¹⁶. The goal is to provide a supportive framework for guiding reviewers toward professional and ethical behaviours, and to provide the necessary checks on whether they would be able to reproduce the work. If the issue of reproducibility can be satisfied at the point of peer review, then published results should be more reliable, and the scientific community can have greater faith that what they read is solid enough to build on.

The Open Science Reviewer's Oath

The oath is a simple checklist to use when reviewing or considering a review request. We recommend that reviewers add a link to this oath ([Box 1](#)) at the top of each review as they begin, in order to provide an *aide memoire* to open review practice, and to inform the authors and potential publishers of the work of their intentions. We hope that by being explicit about the intent, the review will seem less like a cloak-and-dagger process, it will make constructive criticism easier for the author to receive and for the reviewer to provide, and it will also help to spread the practice of open reviewing.

The manifesto

Each point of the reviewer's oath relates to open principles that we consider important; the collection of these principles is the manifesto. The manifesto relates to the oath as follows:

Principle 1: I will sign my name to my review – I will write under my own name

- i) I will sign my review in order to be able to have an *open dialogue with you*

I recognise that reviewing is a role that gives me advantage over you and that anonymity allows abuse of your trust. I will not do this.

Principle 2: I will review with integrity

- ii) I will be open and honest at all times
- iii) I will state my limits
- iv) I will turn down reviews I am not qualified to provide
- v) I will not unduly delay the review process
- vi) I will not scoop research that I had not planned to do before reading the manuscript

Box 1. While reviewing this manuscript:

- i) I will sign my review in order to be able to have an open dialogue with you
- ii) I will be honest at all times
- iii) I will state my limits
- iv) I will turn down reviews I am not qualified to provide
- v) I will not unduly delay the review process
- vi) I will not scoop research that I had not planned to do before reading the manuscript
- vii) I will be constructive in my criticism
- viii) I will treat reviews as scientific discourses
- ix) I will encourage discussion, and respond to your and/or editors' questions
- x) I will try to assist in every way I ethically can to provide criticism and praise that is valid, relevant and cognisant of community norms
- xi) I will encourage the application of any other open science best practices relevant to my field that would support transparency, reproducibility, re-use and integrity of your research
- xii) If your results contradict earlier findings, I will allow them to stand, provided the methodology is sound and you have discussed them in context
- xiii) I will check that the data, software code and digital object identifiers are correct, and the models presented are archived, referenced, and accessible
- xiv) I will comment on how well you have achieved transparency, in terms of materials and methodology, data and code access, versioning, algorithms, software parameters and standards, such that your experiments can be repeated independently
- xv) I will encourage deposition with long-term unrestricted access to the data that underpin the published concept, towards transparency and re-use
- xvi) I will encourage central long-term unrestricted access to any software code and support documentation that underpin the published concept, both for reproducibility of results and software availability
- xvii) I will remind myself to adhere to this oath by providing a clear statement and link to it in each review I write, hence helping to perpetuate good practice to the authors whose work I review.

I recognise that integrity is a social act that requires the majority to hold shared convictions; I will use the majority of 'doves' to balance the 'hawks' in my review by sharing the content.

I will always state the boundaries of my scientific knowledge and practice; I openly acknowledge that I am not an expert in, and cannot satisfactorily assess every aspect of, my field. I will inform you and the journal when this situation arises.

I will not always be an appropriate reviewer. I will provide journal editors with a fair assessment of my ability and, when necessary, decline to review, and will always expand on the reasons.

I will not write a negative review with the intention of blocking publication or delaying publication. In the case where I have already come to the same (or different) conclusions from the author I will state this fact and suggest the possibility of cooperative publication (either back-to-back) or merge a paper.

I understand that there are conflicts in my field. Sometimes, there may be good reasons for remaining anonymous, which may relate to the integrity of others. Wherever possible, I will highlight abuses of integrity and turn down invitations if I feel I have such a direct conflict that would inappropriately affect my review.

Principle 3: I will treat the review as a discourse with you; in particular, I will provide constructive criticism

- vii) I will be constructive in my criticism
- viii) I will treat reviews as scientific discourses
- ix) I will encourage discussion, and respond to your and/or editors' questions

I will happily engage in conversation with you about your work, providing constructive criticism where appropriate.

Principle 4: I will be an ambassador for good science practice

- x) I will try to assist in every way I ethically can to get your manuscript published, by providing criticism and praise that is valid, relevant and cognisant of community norms
- xi) I will encourage the application of any other open science best practices relevant to my field that would support transparency, reproducibility, re-use and integrity of your research
- xii) If your results contradict earlier findings, I will allow them to stand, provided the methodology is sound and that you have discussed them in context
- xiii) I will check that the data, software code and digital object identifiers are correct, and the models presented are archived, referenced, and accessible
- xiv) I will comment on how well you have achieved transparency, in terms of materials and methodology, data and code access, versioning, algorithms, software parameters and standards, so that your experiments can be repeated independently
- xv) I will encourage deposition with long-term unrestricted access to the data that underpin the published concept, towards transparency and re-use;
- xvi) I will encourage central long-term unrestricted access to any software code and support documentation that underpin the published concept, both for reproducibility of results and software availability

I will uphold and advocate open science practice by pointing out where I believe that the authors can do better with respect to deposition of data, citation of accessions and code etc. Often this will mean circumventing current norms.

Principle 5: Support other reviewers

- xvii) I will remind myself to adhere to this oath by providing a clear statement and link to it in each review I write, helping to perpetuate good practice to the authors whose work I review.

As part of my role as a scientist and an open reviewer, I will help other reviewers when they need guidance or support. I understand that new reviewers may not feel entirely secure in managing the conflicts that often arise from the normal academic process. In these cases I will judge a review on its merit and not the individual who has written it.

Author contributions

Dan Maclean, Ivo Grigorov, Michael Markie, Teresa Attwood, Konrad Förstner, Jean-Karim Heriche and Neil Chue Hong conceived and designed the oath and prepared the first draft of the manuscript. All the other authors in the working group were involved in the revision of the draft manuscript and have agreed to the final content.

Competing interests

MM is currently employed by *F1000Research*. His role at the journal does not include any involvement in the pre-publication editorial checks, or with the refereeing process.

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We would also like to thank Peter Murray Rust for comments on the preprint (<https://zenodo.org/record/12273>) and contributing an additional principle to the oath.

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Open Peer Review

Current Peer Review Status: ? ? ? ✓ ?

Version 1

Reviewer Report 10 December 2014

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Lawrence Patrick Kane

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The principles outlined here are important, and this piece is certainly timely. I have two suggestions to improve the manuscript. First, as currently constituted, the manuscript is a bit repetitive, with a large text box recapitulating what is also laid out in much the same format in the body of the manuscript. Perhaps each of the major points could be expounded upon in the text.

Second, while it is hard to argue with the specific tenets enumerated here, there are quite a lot of them. I guess my feeling is that for ideas like this to be more widely adopted that it would be helpful if the core principles could be boiled down to a more manageable size (which would be ideally presented in a text box).

I applaud the authors for doing their part to increase openness in scientific publishing, something I agree is very much needed.

Competing Interests: I am a Section Editor for the Journal of Immunology

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 10 Jan 2015

Dan MacLean

Thanks for your helpful and candid report Larry. We agree the manuscript was a little repetitive and so we have made it much more succinct, by concentrating on the open science principle we want to champion. We have also condensed the oath into 4 principles with an accompanying rationale and made it available on FigShare, which should make it much easier to follow and reuse.

Competing Interests: No competing interests were disclosed.

Reviewer Report 09 December 2014

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Suzanne Scarlata

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I think this article makes many good points, and I also agree with the other critiques. However, I do see danger in full transparency. The problem is that significance of study can be subjective and used in a biased way to sway readers towards a view of greater importance, in order to achieve a good standing with the authors. At this point in time, it is important for editors of other non-transparent journals to remind reviewers of the key aspects of this oath – to critically read the paper and make constructive comments as best as they can. Editors need to use their power to delete inappropriate reviews or reviewers.

Competing Interests: No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 10 Jan 2015

Dan MacLean

Thanks Suzanne for your helpful and candid report. We have now satisfied the other reviews to make the oath clearer and simpler to use. We take your point that perceived impact can indeed sway readers and we certainly agree that as well as the scientific community practicing open science and reviewing openly, journals and journal editors need to play a role in ensuring that reviewers are doing a job that ensures integrity - we believe they can use the principles of the oath to do this.

Competing Interests: No competing interests were disclosed.

Reviewer Report 27 November 2014

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Etienne Joly

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This manuscript was written by participants of a workshop entitled "AllBio: Open Science & Reproducibility Best Practice Workshop" which took place at the TGAC in Norwich UK in September 2014. The alleged purpose of the oath and manifesto proposed in this manuscript is to make "transparency, reproducibility and citizen-scientist engagement the default parameters for performing sound research."

Those goals are clearly highly laudable, and I completely agree that the process of scientific refereeing would greatly improve by going 'open'. I do, however, feel very ill at ease about acting as a referee for this particular paper, for the following three main reasons:

1. This is not a scientific manuscript, and it neither contains data, nor reviews a scientific topic. I am thus left wondering why such a manuscript should need to be peer reviewed. After reading it, I certainly cannot conclude that it is scientifically sound. The best I can conclude is that it is not scientifically unsound.
2. Although this manuscript is very short, I must say that I found it rather difficult to read because of its structure which contains many redundancies and of the fuzziness of its purpose. One aspect that particularly bothers me is the unquestioned assumption that open refereeing will improve reproducibility. The first thing the authors should clarify is what they mean by reproducibility since there are at least two types that I can think of:

The first one concerns data reproducibility (or robustness). In other words will similar data, leading to the same conclusions, be obtained if the experiment is repeated (on a different day and/or with different samples and/or in a different place and/or by different people etc...). The second type of reproducibility relates to the capacity of other scientists to reproduce an experiment described in a published manuscript. I suspect that when they refer to 'science reproducibility', the authors refer to the latter type, although the first type is the most important one in my eyes.

3. The authors duly acknowledge that they have been inspired by reviewer's oaths previously proposed by others (refs 13-15), and if I am being completely honest, I do not find that the set of 17 rules they propose represent a significant improvement on those previously proposed oaths. Because I do not want to plagiarise Jonathan Eisen, I will simply suggest that the authors should very seriously consider following the many suggestions he has made on his blog to improve this paper (<http://icis.ucdavis.edu/?p=505>), and especially the idea of reversing the Oath and the Manifesto.

Competing Interests: No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 10 Jan 2015

Dan MacLean

Thanks Etienne for your very helpful and candid report. We agree that the article needed to be made clearer in order to convey its intentions to the reader and we have taken measures to do this by clearly elucidating the open science principle. We have also made it clear about what we mean by reproducibility, and how the robustness of research should mean that similar data should be able to produce the same conclusions. We have also simplified the oath on the advice given to us from you and the other reviewers to make it easier to read and reuse.

Competing Interests: No competing interests were disclosed.

Reviewer Report 26 November 2014

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Christopher D Chambers

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Overall, I believe this is a laudable proposal for a code of practice in academic peer review. In one sense it would be nice if such a code was unnecessary; after all, most of the practices outlined here should form part of any graduate training in science. In practice, of course, we know that the reality of peer review often falls short of achieving its aims. Here the authors outline 5 key principles and 17 key practices, which - if adhered to - would likely result in a more transparent and effective peer review mechanism.

While I am supportive of this initiative, I do have some concerns about the way it is presented and I also wonder how adhering to it could be incentivised. I will outline below some suggestions for possible improvement:

1. The authors begin by outlining the 17 key practices and only at the end do they group them together within governing principles. I think the overall structure of the paper would be clearer if this order were reversed - beginning with the five principles, explaining the key practices in each case that serve them, before returning to the code of practice or "oath" as the authors call it.
2. Some of the individual practices in the oath are somewhat ambiguous to me, and others

seem to overlap. For instance, what exactly does it mean for a reviewer to "state their limits"? This is elaborated later under principle 2 but I would recommend clearer descriptions at all times. Other practices seem very similar, or least belong to common subsets of behaviour; e.g. practice 7 and practice 10; practice 2 and 6; practices 13, 14, 15 and 16 are all very similar and not clearly distinguished. With some careful attention I suspect the number of practices here could be halved, which would improve readability and likely uptake.

3. The language expanding on some of the core principles is perhaps little purple in places, e.g. *"I will use the majority of 'doves' to balance the 'hawks' in my review by sharing the content."* I'm not entirely sure what this means, but if it refers to the intention to balance sharp critical feedback with constructive suggestions or positive feedback, this could perhaps be said in a more straightforward way. The authors should bear in mind that not all readers will have English as a first language, and so more direct and less metaphorical phrasing could widen the appeal.
4. Two concerns with signed reviews need to be addressed. The first is the potential negative consequences felt by junior (non-tenured) scientists or minorities, who could, at least in theory, face severe repercussions for criticizing the work of senior/powerful colleagues who sit on editorial boards or grant panels. In my mind this conflict has never been properly addressed; while I believe it is completely reasonable for tenured scientists to be open and accountable in their reviews (I always sign mine), it is questionable whether this should be required uniformly across science. The second concern with open reviewing is the potential legal backlash of scientists being sued by litigious authors who feel aggrieved by a reviewer's published comments. We are seeing this already on PubPeer and elsewhere. This raises the question of who assumes legal responsibility for the content of a signed review. In the case of *F1000Research*, for instance, does it or will it provide legal indemnity to reviewers who choose to unmask themselves?
5. Finally, I would prompt the authors of this paper to consider, and ideally speculate on, ways their oath (or code of practice as I would call it) might be implemented and incentivised in science. Could it, for instance, be worked into the next REF in some way? How could this be achieved and what challenges would need to be overcome? How does this initiative relate to other emerging group-led initiatives, such as the Agenda for Open Research (<https://agendaforopenresearch.org/>)? There are no shortage of good intentions but as we know, there lies a world of groupthink and social inertia between good intentions and good practices.

Regardless of the above concerns, I applaud this much-needed call for greater transparency in the peer review process.

Competing Interests: No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 09 Jan 2015

Michael Markie

Thanks Chris for your very helpful and candid report. Like all of the reviewers have suggested we have simplified the oath and made it much clearer and simpler to use. Yes, we agree that some of the language used was difficult for non-native English speakers and hence we have made it clearer to read in places that may of caused confusion. We also agree with your point about new/junior reviewers who may feel exposed by openly reviewing someone more senior than them and have acknowledged that in the guidelines. Here at *F1000Research*, we have implemented a system of co-authoring referee reports to help support junior researchers who feel that on their own they may be subject to repercussions from the authors. With regards to the legality of an open review on *F1000Research*, reviewers submit their report according to our terms and conditions which clearly state the report will be published under a CC BY license, and that the report must not be defamatory. However as a publisher we are also conscious about each review that is published on the site and we have system in place to ensure that nothing libel would be intentionally published. More generally, openness and transparency in signing a report means that they are on the whole much more civil and are of a constructive nature that encourages dialogue. We believe the peer review process should be a collaborative process and hence that is the environment we try to provide. Here is a letter of response from Rebecca Lawrence, Managing Director of *F1000Research*, recently published in response to the recent libel story from the anonymous review on PubPeer:

<http://www.timeshighereducation.co.uk/comment/letters/an-anonymity-problem/2017051.article>. Finally, just after we published the review we became aware of the Agenda for Open Research who have similar goals that align with us and they were kind enough to link to the oath in their guideline for reviewers. We fully support their initiative, and we will seek opportunities to collaborate where possible. You are right, it would be great to push to get open reviewing to be recognised as an official part of the REF (and other funding bodies) and acknowledged as a measurable scientific output. Here at *F1000Research* we are taking steps to make this happen; currently we mint each report with a DOI and we are heavily involved in the [Peer Review Service project](#) in collaboration with [ORCID](#) and [CASRAI](#).

Competing Interests: I am the associate publisher of F1000Research.

Reviewer Report 25 November 2014

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Vitaly Citovsky

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NY, USA

This article addresses a very important issue of peer review. Although, many of us tend to regard it in a way of "if it ain't broke, don't fix it", we also are often frustrated with the process and wish it were more fair, transparent and to the point (rather than requesting numerous experiments that are only tangential to the paper's main message). Thus, constructive approach to potential improvement of the peer review system is always welcome and should be encouraged. With this in mind, I support, in principle, publication of this manuscript. On the other hand, the way that the authors present their ideas is not perfect. Here is why:

First they make a huge emphasis in their introductory remarks on experimental reproducibility and societal impact. However, their "oath" does not address these issues specifically and constructively; instead, it offers declarative statements which are mostly trivial and already represent part and parcel of today's peer review process (e.g., "I will comment on how well you have achieved transparency, in terms of materials and methodology, data and code access, versioning, algorithms, software parameters and standards, such that your experiments can be repeated independently").

Second, the authors do not address clearly one very important aspect of potential improvement of the review process which is "To request further experiments only as a last resort, and only if they are essential to validate the conclusions of the paper. No experiments extending the study beyond its conclusions, or with unreasonable cost or time implications, should be proposed. An estimate of time required for the additional work should be provided." This is a quote from Mariann Bienz and Kathy Weston who also addressed the issue of peer reviewing (<http://elifesciences.org/elifesciences/a-reviewers-charter>).

Third, the "oath" is unreasonably long. Again, I suggest to look at the post by Bienz and Weston, which unlike the present paper, is much clearer, laconic and to the point.

Fourth, the authors quite nonchalantly suggest to overturn the cornerstone of the present review system - its anonymity. What is the chance for that? The reason for such a step should be well reasoned and substantiated.

Competing Interests: No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 10 Jan 2015

Dan MacLean

Thanks Vitaly for your very helpful and candid report. We have now explained what we hope to achieve from the oath, how we think it could address the issue of reproducibility and how the oath could have a positive societal impact in the scientific community. We believe at the researcher level there is a unique opportunity to help spread open science practices when reviewing articles and help improve what the community as a whole believes should be

available in a paper in order for it to be reproduced. We agree with your point about not asking for additional experiments, however we have decided to concentrate fully on elucidating the requirements of the open science principle specifically and not the other principles. As with the other reviewers and comments we have taken all of your advice and shortened the oath to make it simpler for reuse. We also agree with your point about anonymity and we have discussed this in the manuscript on why we should move towards open peer review.

Competing Interests: No competing interests were disclosed.

Comments on this article

Version 1

Reader Comment 22 Dec 2014

Daniel S. Katz

The suggested oath, broken down by principles and items, is quite interesting, with some of the principles having clear value and little overhead, while others that have potential value also add large amounts of possible overhead. I suggest that these be broken down into two types of open reviews. Specifically:

Passive review:

Follows all of Principles 1 through 3, and elements x - xii of Principle 4. Here, the idea of an open review basically is a review that is signed to make sure the process has appropriate integrity.

Active review:

Includes all elements of Passive review, as well as items xiii and xiv of Principle 4:

- xiii) I will check that the data, software code and digital object identifiers are correct, and the models presented are archived, referenced, and accessible
- xiv) I will comment on how well you have achieved transparency, in terms of materials and methodology, data and code access, versioning, algorithms, software parameters and standards, so that your experiments can be repeated independently

The idea of an open review here seems to be that, in addition to ensuring integrity in the review process, there is also extra work being done beyond a standard review, and the person who does such work should be credited for doing so.

I am uncertain about where elements xv and xvi, as written:

- xv) I will encourage deposition with long-term unrestricted access to the data that underpin the published concept, towards transparency and re-use;

- xvi) I will encourage central long-term unrestricted access to any software code and support documentation that underpin the published concept, both for reproducibility of results and software availability

would fit. These are neither active nor passive, and as written, they don't match the review function, but are even more active, more a collaboration than a review. I suggest that they be rephrased as:

- xv) I will check that the data that underpin the published concept are made available in a manner that provides long-term unrestricted access, towards transparency and re-use;
- xvi) I will check that any software code and support documentation that underpin the published concept are made available in a manner that provides long-term unrestricted access, both for reproducibility of results and software availability

so that they could be part of an Active review.

Of course, this specific remedy is just a suggestion, but I the overall point I want to make is that the added work to be done by the reviewer beyond what is now standard needs to be explicitly considered in both the oath itself as well as the description of the oath.

Competing Interests: none

Reader Comment (F1000Research Advisory Board Member) 13 Nov 2014

Jonathan Eisen

I have written a mini review of the paper on the UC Davis "Innovating Communication in Scholarship" blog: <http://icis.ucdavis.edu/?p=505>.

Competing Interests: I am an informal/formal advisor to F1000 on some of their open science activities though I had no role in this paper.

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