

The Oxford Comment
Episode 87: Supporting the Future of Peer Review

Jenn Saboe 00:05

Every year, Peer Review Week honors the contributions of scientists, academics, and researchers in all fields for the hours of work they put into peer reviewing manuscripts to ensure quality work is published. This year, the theme of Peer Review Week is "The Future of Peer Review." But what actually is peer review? This is Jenn Saboe with The Oxford Comment.

Jenn Saboe 00:25

According to Oxford Languages, peer review is "the evaluation of scientific academic or professional work by others working in the same field." In practice, this means manuscripts submitted to academic journals must go through a strict review from peers in the field to check the validity and novelty of the research. Additionally, this process aids the editor of the journal in determining if the manuscript is fit to publish in the journal with little or no revisions, or if it requires major edits.

Jenn Saboe 00:53

Peer review goes back to the beginning of resource sharing, with the concept of peer review evidence in ancient Greece. Modern peer review as we know it today is thought to have originated in the 17th or 18th centuries with the introduction of the first academic journals, though it has transformed massively with the increase in scientific papers published and the advent of the Internet.

Jenn Saboe 01:13

Historically, editors would invite close colleagues to review, which limited inclusivity in the process. Additionally, familiarity with the authors of manuscripts could sway peer reviewers to review in a favorable or unfavorable light due to unconscious bias. Developments in reviewer recruitment and bias reduction work to minimize these issues, as we'll hear today from our guests.

Jenn Saboe 01:34

On today's episode, we are excited to welcome three of our colleagues, Laura Jose, Dr. Amanda Boehm, and James Phillipotts, to discuss with us current changes in academic publishing, and what they will mean for the future of peer review.

Jenn Saboe 01:47

Our first guest is Laura Jose, a publisher in the Owned and Product Tower at OUP, here to talk to us about bias reduction in peer review.

Jenn Saboe 01:57

Laura, welcome, could you please introduce yourself?

Laura Jose 02:00

Hi, Jenn. So I'm Laura. I'm a publisher, as you said, in the journals team at OUP, so I manage a list of titles. And I also chair our diversity, equity, inclusion, and accessibility project team within journals.

Jenn Saboe 02:14

Thank you so much. So you are working toward a future where bias is diminished or eliminated within the peer review process. Can you explain some issues concerning bias and peer review in the past?

Laura Jose 02:27

Yeah, so I think the key issue with peer review is that reviewers are essentially asked for a subjective opinion on a paper. And so reviewers in general do a fantastic job, but they're human, and like all of us, they are subject to bias. Sometimes that's been conscious bias in the past, but it can also be entirely unconscious. And it can include bias around the author's gender, race, ethnicity, bias against authors from particular institution or region, or who have English as a second or other language. It can also include status bias, so where papers from prominent researchers in a field are more likely to receive a positive review. And just to give an example, there was a study published last year in the Proceedings of the National Academy of Sciences where they submitted a paper to a group of reviewers, and the paper had been co-written by a prominent researcher whose name was very recognizable in the field, and an early career researcher, whose name was unlikely to be recognized. And they varied whether they showed the name of the early career researcher, or the prominent researcher, or no name at all as the author. And more than 20% of reviewers recommended the paper be accepted when the more recognizable author's name was attached to it, compared with less than 2% for the comparatively unknown author's name. So you can see that that type of priming can have a real effect on peer review outcomes. We're all subjected to these kinds of biases, despite our best efforts. So it's important to try and address them from within the systems that we use for peer review, to ensure that we're only publishing the best quality research.

Jenn Saboe 04:08

And that's a really interesting example. Thank you. In what ways can the peer review model be used to help reduce bias?

Laura Jose 04:16

So, I think, in general, there's two approaches to tackling bias. One is to try and minimize the information that the reviewer gets about the author. So they don't have any basis for bias. And we normally refer to that as double-anonymized peer review. It's double-anonymized because the author doesn't know the reviewer, and the reviewer doesn't know the author; all that they are basing their judgment on is the paper itself without any other information. The second approach is actually to opt for transparency. The basis of that is making reviews public so that any bias within them is obvious and it can then be challenged. That's normally referred to as open peer review, and there's different versions of that. It can vary as to whether the author and reviewer are aware of each other's identities; whether you make the reviewers identity public alongside their review. It varies as to how much of the review process is published, whether you, you know, you kind of log every review, and then every change made as a result of that review; whether the review process takes place before or actually after publication; and whether reviews are invited post publication from the wider community. But the key thing is that you want to make the process as transparent as possible.

Laura Jose 05:40

There's evidence that both of those can help reduce bias. And there's really pros and cons for each approaches. There's been a few studies that have shown that, actually, reviewers prefer to be anonymous when given the choice, because there can be fears of consequences when they're writing negative reviews about peers, particularly if those peers are high status within the field, and particularly if the reviewer is low status. So, for example, if they're an early career researcher, they haven't yet established their reputation. And there's some evidence that men are more likely to be willing to add their name to review than women, perhaps because critical comments from women are often viewed more negatively than when they come from man. So there can be reluctance from reviewers to fully embrace that open peer review model. There are cons to the double-anonymized process as well. Particularly if you're working in a small field, reviewers might still be able to identify the author, because they've seen them present the work at conferences, they've read preprints, etc. And, actually, a recent study has shown that AI models can be used to identify the author of a paper by comparing the referencing and writing patterns with papers that are available online. So there's some questions as to whether we can ever really make a paper anonymous.

Laura Jose 07:00

All that being said, the British Ecological Society actually recently finished a three-year study of double anonymized peer review. And they found that it did have a real effect on bias. Specifically, double-anonymizing reviews increased the positive reviews for papers with authors from lower and middle income countries and with English as a second or other language. So they're now applying to adopt double-anonymized review across their titles. I have said it, you know, I come from a humanities background myself where double-anonymized review is pretty common. So that's the approach that I'm personally a bit more comfortable with, but we have journals using both models, and you can combine the two; you can use a double-anonymized review model, but then make the reviews themselves public. And I think journals are still experimenting, and still doing studies on, which is really the best approach.

Jenn Saboe 07:54

Interesting. So you mentioned you're in the humanities background and double-anonymized is pretty common there. Is it common in medical and science journals as much, or it's mainly on the humanity side, or just on the journal?

Laura Jose 08:08

I think it's less common in STEM subjects. But STEM journals have a real experimenting with open peer review. So that tends to be, I think, the, the model of preference there. But I mean, having said that, the British Ecological Society are moving to double-anonymized peer review, the Institute of Physics Publishing are moving to double-anonymized peer review. So, you know, I think there are journals across all fields that are really experimenting with the type of models and really trying to get a sense of what works best within their subject area and for their authors.

Jenn Saboe 08:44

Okay, that makes sense. What are some tools that can be used to reduce bias in peer review?

Laura Jose 08:51

So I think the, the main intervention we suggest would be double-anonymized or open peer review or a combination of both. But another kind of quite basic thing is that it's really helpful to provide reviewers with clear guidance on what they should consider when reviewing a paper. Some titles even provide a SETT Framework for judging a paper with separate criteria to rate against, so that it's, you know, you're giving a real objective framework for review, even when that, that's not appropriate; giving reviewers a sense of the key criteria that they should judge against. It's really important. Even when that isn't appropriate, giving sense of the key criteria that a reviewer should be judging against, it's really important. And another important aspect is who's doing the reviewing, so making sure that you have a wide reviewer base that reflects the authorship of the journal and the diversity within the field. Ensuring that a paper is reviewed by people from different backgrounds and different perspectives can help protect against biases and blind spots that can come in with a more homogenous reviewer base.

Jenn Saboe 10:04

That's a great tip for editors to have a diverse peer review base. So on that note, what else can ever viewer or an editor keep in mind as they review manuscripts in terms of bias reduction?

Laura Jose 10:17

So it's really important to keep that potential for bias in mind. Studies have shown that the more conscious you are of potential bias, the less likely you are to succumb to it. And a lot of the advice on minimizing bias in other contexts, for example, when interviewing job applicants, can be really helpful here. And often, that's around making sure that you have a clear set of criteria that you have decided in advance that you can rate the candidate or paper in this case against, rather than just relying on initial impressions. So again, you're trying to make the process as objective as possible.

Jenn Saboe 10:55

Great, thank you. And looking ahead, what do you see happening in the future for bias reduction in peer review?

Laura Jose 11:02

So I think publishers and editors are increasingly concerned about ensuring that their journals are providing an equitable service for authors. And we know that a lot of groups have historically been, and actually currently are, underrepresented in academia and in publishing, and ensuring a fair and unbiased peer review process is just part of trying to redress that. OUP is a member, along with most major publishers, of the Joint Commitment for action on inclusion and diversity in publishing, which was founded by the Royal Society of Chemistry in 2020. And one of the main initiatives of the Joint Commitment has been working on is capturing demographic data from authors and reviewers. So we can get a better picture of the communities around our journals: who's submitting, who's reviewing, who makes up the editorial teams.

Laura Jose 11:53

We started to collect that data on one of our main submission systems, and we hope to start collecting it on the other this year. It's required a lot of development work from our submission system partners, in order to ensure that the data is collected anonymously. I can't be seen by anyone processing the papers. So it doesn't in any way influence decisions on individual articles. At the moment, all we have is kind of very top level data. So we can see the breakdown of demographics in any one who's interacted with a journal, who's logged on to the submission system, but we still need some development work to get to a point where we're able to break down that data into roles. So, for example, we can see who among the respondents were logging in as a reviewer, or were logging in as an author. And then, ideally, we'd want to be able to link back to outcomes. So, for example, you could see the percentage of women within authors submitting to a journal, and, then, within authors accepted by that journal. And so you'd expect those to then to be roughly in line over time, and if there's discrepancies, you could then investigate further, and that might perhaps indicate bias, which you'd then be able to act to address. So if we're able to collect that kind of high level data, over time, we should be able to get a really good sense of where bias might be coming in, and then judge whether our attempts addressing are actually effective. So that is a development that I'm really looking forward to.

Jenn Saboe 13:25

Thank you so much, Laura, for joining us.

Laura Jose 13:27

Thanks, Jen. I've really enjoyed it.

Jenn Saboe 13:29

Our second guest is Dr. Amanda Boehm, Scientific Managing Editor for JNCI: Journal of the National Cancer Institute, and JNCI Cancer Spectrum. She works on diversity, equity, inclusion and accessibility (or DEIA) initiatives at the journals and is here to talk about how these types of initiatives affect peer review.

Jenn Saboe 13:50

Dr. Boehm, welcome. Could you please introduce yourself?

Amanda Boehm 13:53

Hi, Jenn. So I've been with OUP as an editor for almost 13 years. I also have a PhD in cellular and molecular pathology, and I did cancer research before becoming an editor. So I also have this, some experience as a reviewer myself when I was a PhD student and a postdoctoral fellow.

Jenn Saboe 14:15

Great. So you bring a great background to this having been a reviewer yourself.

Amanda Boehm 14:19

Yeah.

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Jenn Saboe 14:20

Can you talk broadly about the historical models of peer review that limited opportunities for diverse reviewers to take part in the system?

Amanda Boehm 14:28

So it unfortunately, it's been well known that researchers from emerging regions are underrepresented in the peer review process. But fortunately, now publishers, editors, and societies are thinking more than ever before about how to conduct the review process inclusively. So, for example, we have new tools, guidance, and studies on how to conduct the peer review process with DEI and A in mind.

Jenn Saboe 14:55

So building off that what sorts of ways can dia initiatives be included in the peer review process now?

Amanda Boehm 15:02

There are, there are a lot of ways. One of the things that journals can do is collect demographic information that can be used as benchmarks for their journals. And they collect it from reviewers, authors, and editors. And this can be used to affect change within the journal. This, this should really be used as a tool, it should never be used to make decisions for editorial reasons. But this is, this is really a tool. Another tool that can be used is reviewer locator tools. These are great because they use AI technology, and that can be used to help diversify the reviewer pool. Another thing is to diversify the editorial board itself. And that really helps bring in new faces, new perspectives, and new views into how journals are run. And that trickles down through the peer review process itself.

Jenn Saboe 16:06

That's really interesting about the AI locator tools that you mentioned. Does that get as specific as what university researchers are from, or is it more so used to identify which country or continent?

Amanda Boehm 16:19

You can use it for a lot of different things. And different tools have different capabilities. Some of them are able to look at geography, some of them will look at universities. Some of them you can actually use to focus down as far as career stage, because if you look at, if someone is published within only the last five years, then you're looking at someone who's in the early part of their career, versus someone who's published more prolifically within the past, you know, 15 to 20 years, or longer, then you know that that's someone who's had a much longer career. So, because whenever we look at DEI, in particular, you're looking not only at race, ethnicity, geography, and sex, you're also looking at career stage is also another element of that.

Jenn Saboe 17:13

In your role, what are some of the struggles that you encounter as a scientific managing editor, and how can peer reviewers help?

Amanda Boehm 17:21

So, basically, the biggest struggle right now is to get reviews for manuscripts. It's something that all journals are experiencing at the moment. And it's something that we refer to as "reviewer fatigue." I think the current wave is a byproduct of a few things, including mostly the surge in submissions that all journals experienced in 2020 during COVID. It's due to the old ways of doing things, where editors will invite the people they know or the established persons in the field, so that the same people are getting the invitations repeatedly over time, and they just get tired of reviewing, they just don't have the time they don't have the energy for it. So, because of this, expanding the reviewer pool is essential.

Amanda Boehm 18:05

And that leads back to reviewer locator tools. They can be very helpful. It allows the editors to identify new and qualified individuals who may not have otherwise had the opportunity to review because they're not in the established database that the journals are using. Reviewers themselves can help this situation by responding to invitations when they do receive them; don't just ignore them, because you don't have the time to review. You can offer suggestions of colleagues who you know are qualified to review the manuscripts, and the journal can contact them, and then they can review. This helps expand the reviewer pool, and you're giving somebody else the opportunity to review. Also, journals are now allowing mentored reviews as an option, so if that's something that you would like to do, then you can read the invitation letter and see if there's a policy on it. And if not, then just reach out to the editorial office and ask if mentored reviews are allowed. It's a great opportunity to train a mentee and let them learn how to review. And then after a few of these mentored reviews, they can become a reviewer on their own merit.

Jenn Saboe 19:20

Can you explain a little bit more about the mentored reviews? So is that you pair in early career reviewer with an established reviewer? Is that how that one works?

Amanda Boehm 19:29

Yeah, or it can be a student too. I know as a, as a PhD student, I, and as a postdoctoral fellow, I had really great mentors who, whenever they were asked to review a paper, would have us work on the review with them. So it really gives you have the opportunity to learn, as a student or a trainee, to learn how to review, and it's an opportunity that not everyone has, unfortunately, so if you don't have have a mentor that, that offers that, then it's very hard to find ways to review and to gain that experience, because you're not automatically in a journal database.

Jenn Saboe 20:13

That makes sense. Thank you. So in the future, given the struggles that are going on now with reviewer fatigue and a limited pool of reviewers, how do you envision an ideal peer review model working, keeping in mind those DEI and A initiatives?

Amanda Boehm 20:31

So, personally, I see double-anonymous peer review model is kind of the ideal. I think that removing any identifying information during review helps eliminate bias from the review process, and there have

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been many studies now that have proven this. And going back, the use of reviewer locator tools as a standard part of peer review would be excellent so that finding reviewers moves away from the who-you-know mentality for reviewer invitations that many editors fall into. And again, many of these have filters so you can limit your search results to help diversify their reviewer pool. Another thing is that I think more reviewer training programs as standard practice would be amazing, too, so that anyone who wants to learn how to review has the opportunity. Again, not everyone has that great mentor who takes the time to teach them how to write a good review, and also then offer the opportunities to co-review with them. So there are some programs out there right now that journals and publishers offer so that you can learn how to review and sometimes even get a certificate at the end. And they're really great options.

Jenn Saboe 21:46

And finally, is there anything that you want peer reviewers to know?

Amanda Boehm 21:51

So, I want peer reviewers to know how much they're appreciated. Reviewing is ultimately a form of community service. And their time is so valuable, and that's not something that journals take for granted. I know. We JNCI and JNCI Cancer Spectrum are extremely grateful for every review that is turned in, because they have strengthened every paper that we've considered, whether it was accepted or rejected. So we sincerely appreciate every review.

Jenn Saboe 22:22

Thank you so much, Amanda, we really appreciate it.

Amanda Boehm 22:24

Sure.

Jenn Saboe 22:26

Our final guest is James Phillpotts, the Director of Content Transformation and Standards who serves as an OUP representative for the National Information Standards Organization (or NISO). NISO recently released a document on Standard Terminology for Peer Review.

Jenn Saboe 22:44

James, welcome. Could you please introduce yourself?

James Phillpotts 22:47

Hi, Jenn. Thanks for having me along. My name is James Phillpotts, and I'm Director of Content Transformation and Standards here at Oxford University Press. My group are part of our Central Publishing and Content Operations, supporting Academic, ELT, and Education; so all three of our divisions. Our role covers the governance and application of content standards that's right across the range of our publishing. And that includes the models that we use to structure our content, which is something that's really crucial for digital publishing, the appropriate tools and solutions that we use to manage that content, as well as process standards such as how we securely store our published

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content, and manage our archives. As part of that role, I get to work really closely with some of the key organizations in our industry, which are working to advance the development of those standards, practices, interoperability, and long-term sustainability in scholarly communications. And one such organization is the National Information Standards Organization, NISO, which has recently announced the publication of its Standard Terminology for Peer Review.

Jenn Saboe 23:48

Great, thank you so much. So why is it important to have a Standard Terminology for Peer Review?

James Phillpotts 23:55

The peer review processes are really critical to scholarly integrity, by helping to ensure that research outcomes are presented through our publication in journals in a valid way and the quality standards are maintained. So as such, they form one of the real kind of key pillars of scholarly communications. And yet, there hasn't been any clarity on the terminology that's used for various peer review stages or processes. At the same time, they've been quite a few experiments in recent years, with all sorts of different innovative models for peer review. And that can mean, for example, that there can be a bit of a lack of transparency; even where an individual journal's peer review model is aiming for openness, it can be a little bit opaque and it means it's not at all straightforward for researchers to compare those processes across journals, there's just been so much variety in this space. So, in short, having a Standard terminology is a really important part of helping to ensure just greater transparency and openness across peer review.

Jenn Saboe 24:56

That makes sense. Thanks. So what are some of the major changes in the document on Standard Terminology for Peer Review, and how does it compare to what is used currently?

James Phillpotts 25:06

So, at least as far as I'm aware, there haven't really been any standards before. So this is just quite exciting in itself, and a pretty major change to finally establish a standard across scholarly publishing. And that's not to say that there haven't been some really widely recognized terms used to describe different peer review processes and stages. But where there have been some regular use terminology, it's developed quite organically. And that means there hasn't necessarily been clarity on what specific terms mean, in different contexts. Or, if processes are really kind of comparable between journals that just kind of developed over time rather than anyone saying, "This particular term means this particular stage or this particular process."

James Phillpotts 25:52

So the new NISO Standard Terminology for Peer Review now provides that clarity, which is great, as well as avoiding some of the things that have crept in over the years, such as some ableist terminology, that's been previously part of, kind of, common jargon, so, for instance, talking about types of "blind review," which is, which is not really appropriate. So this new terminology really kind of replaces that, sets the standard, and puts us in a much better place in terms of good, good publishing terminology

across the board. I'd also say it's pretty, it's a new thing so it's not really major changes so much as something completely fresh.

Jenn Saboe 26:28

Right? So before this, then were different journals using different terms that meant the same thing?

James Phillpotts 26:34

Yeah, even different terms that meant the same thing, or when they were describing their processes, they were using quite opaque terminology. So you could go to a journal's site and read that they were doing "double-anonymous peer review." Oh, great. That's really good. But what does it actually mean? And maybe the description for one journal, it looks like it's nicely comparable to another one, because they're both using the same term. Well, that's great. But are they using it in quite the same way? Is it really clear what exactly that means, so they're not just for researchers, but also for other participants in that process?

James Phillpotts 27:09

Whether they're members the editorial office, or the reviewers themselves, do they really know what they're actually taking part in? What does that process look like? So having something that's a standard really helps, it means that shorthands can be used. So people can use those same kinds of terms. And we can all understand, mutually, what they mean, rather than having to assume based on sort of past or inferred knowledge, what it might mean that they're trying to describe.

Jenn Saboe 27:37

Okay, yes, it sounds like it used to be somewhat more confusing, and this will help bring some clarity to the process. On that note, what is the impact of the NISO guidelines to the average researcher or average peer reviewer?

James Phillpotts 27:51

So the actual impact of these guidelines is definitely not to fundamentally change the ways in which researchers are approaching publishing or peer reviewers are approaching their role in the process. The aim is not to disrupt their work at all, but just provide that clarity around processes and terminology that's used by different journals and different publishers. And, as I mentioned, that both helps in terms of ease of comparison, but also just in terms of, at least stating for researchers, what they can expect of the peer review process, and the information about that, which will be associated with that article. So when their article's published, it will list particular stages of peer review, and dates that associated with them. So again, what exactly do those mean? It helps make that a lot clearer. And for the peer reviewers, it helps explain their own role and contributions to that process. As I mentioned, peer review is such a critical part of scholarly communications that being able to understand exactly what it is they're contributing and how and where that fits in, I think, really provides a lot, kind of, better information to peer reviewers about their part of that process for the publishing overall in a journal.

Jenn Saboe 29:00

Thank you. And on the other side of the publishing process, how do the guidelines impact editors or managing editors in their working relationships with peer reviewers?

James Phillpotts 29:11

Alright, so again, the impacts for editors and managing editors here are really in terms of clarity. So in this case, in particular, around interactions between different roles in the process, such as with the reviewers themselves, and to what degree identities are transparent between those different roles. So this may not be a change in the ways of working for editorial offices, but it helps make sure that those roles and interactions and transparency are really clearly understood.

James Phillpotts 29:39

So I guess to make that a little bit more, kind of, real with an actual example, the guidelines make it clear that if a double-anonymized process is being followed, reviewer identities are not being made visible to authors; author identities are not being made visible to reviewers, but reviewer and author identities are visible to the decision-making editor. So just setting that out in the section on identity transparency in these guidelines means that the shorthand, when you just simply say, "It's double-anonymized," is much clearer and can be mutually understood. If you're looking between different journals and they both say their double-anonymized, you know exactly what that means in terms of roles and how transparent these identities are to different parties in that process.

James Phillpotts 30:22

The guidelines also really bring home the importance of information that relates to processes and dates, as well as those roles. So with the guidelines now available, editorial officers might want to review and think about adjusting the terminology that they're using. And there'll be, eventually, both internally within their own processes, but also in their external communications, to make sure that the terms they're using actually align with the terms that are in this, in this new guidance. So although the guidelines are just the standard terminology, and not setting out any specific recommendation in terms of a model that should be followed, just kind of going through that process and thinking about, "Well, what does it mean in terms of these roles? What is it that we're really kind of setting out? What is it that's clear to our research community?" That might trigger some thoughts about the peer review process they're using overall, and the kind of appropriate levels of interaction and transparency that they, they want for their title. So I think, as I say, although no model's being recommended as a result of these, just that kind of thought process of working through a recommended standard and thinking about the terminology that's being used, and what that really means to participants in the process, really, perhaps bring some clarity of thinking for editorial offices.

Jenn Saboe 31:32

Great. And you mentioned that that would impact external communications or communications with authors and reviewers. So would you recommend editors go through and just double check that they're not using any of those ableist terms, and making sure they're using the new terms?.

James Phillpotts 31:48

Yes. Yeah, absolutely. I think if there's any terminology, which could be outdated or misconstrued, then editors will want to absolutely review and make sure that they're setting out exactly what processes their journalists are following in the clearest and most open way possible. And that that's inclusive as possible, too. So there's, probably, is that the editorial offices might want to just double check against the standards, even if they don't think that it's going to change anything for them themselves. It's definitely worth taking a read of it, having a look at the guidance they've got already, and just having a, having a bit of a think about whether they're as clear as they can and should be.

Jenn Saboe 32:27

And what changes do you hope or expect to see in the future for peer review, whether related to these guidelines or peer review as a whole?

James Phillpotts 32:35

That's a pretty big question. I guess in terms of my hopes, I've got just quite straightforward ones, really. And that's that this terminology is widely adopted to help make peer review processes as readily understandable as possible and more transparent. It's really important that journals are able to follow the most appropriate review processes to them, their research community, and the expectations of the readership in their discipline area. And that will likely include continued diligence to eliminate the potential for biases. And I'd expect probably some further experimentation with very open and community-based review models as well. No doubt, new models for review will continue to evolve to meet those kinds of requirements and expectations in different research communities. And the way that I see it, that just really strengthens the need for clear and shared terminology rather than in any way diminishing that. So the more experimentation, the more variety that is around these models, the more important is that there's shared and straightforward terminology that people can understand and really know what makes Journal A the same or different from Journal B in terms of their peer review processes. So that's a quite sort of, I guess, quite a straightforward hope, you know, adopting these kinds of guidelines, I think, it's, it's a pretty kind of key thing and will help everyone who's involved in the process.

James Phillpotts 33:58

I also think in the future, I'd expect we'd see much more regarding the use of machine-learning and artificial intelligence in peer review processes. So there are already some pretty sophisticated tools and processes in use as part of editorial office processes. So, for example, the detection of plagiarism or image manipulation, for reference checking, that kind of thing. So I think we might see more of those kinds of tools, either being combined with or helping to facilitate peer review processes, and that means that transparency about their use is going to be really key for maintaining trust in scholarly publishing processes and the whole, kind of, ecosystem around peer review. So there's a lot to be offered by these kinds of tools. And, as I say, already quite a few in use in other parts of editorial office processes, but as those perhaps get combined, or help peer reviewers in fulfilling their role, we just need to be really transparent about that, too. So that might be something where, either this standard or alternative future, kind of, standards that develop might have an area to look at.

James Phillpotts 35:03

I guess slightly more prosaically, and speaking as someone who's particularly interested in data processes and standards of scholarly communications, I'd really hope to see this guidance be extended beyond journals; say, for example, to preprints, conference proceedings, and research datasets. I think that would be really helpful. We've just been talking about this guidance in the context of journals, really, to date, but there's definitely a lot of kind of similarities in terms of processes and things that these guidelines could be extended to, as well, I think, for those areas. And also machine readability, of this terminology, which I think is already one of the future goals of this initiative, would also be very welcomed.

Jenn Saboe 35:47

On that AI point, in the future do you expect if AI tools are being used for peer review, there would be a line in a paper that, or at the start or end of a paper, that would say, "AI tools used in the peer review process" or some kind of way to indicate that?

James Phillpotts 36:02

I think it would just be a very different process from peer review. So maybe there's an AI type of review, but that's not by nature, peer review, right? Peer review is bringing the academic diligence and understanding to a paper that artificial intelligence is in no way set up to, to replace, but there could be a place for some automated review to help pull out particular areas that a reviewer might want to focus on. Or, if it looks like there's some inconsistencies, or, say, perhaps tie in some of the things that already happen in editorial office processes to automatically check references, that kind of thing. You could think about how that might pull in. If those kind of processes were being applied, I'd absolutely expect that there needs to be a very, very clear statement saying that that's the case. So the authors are aware of it going into the process, not just, you know, after it might have happened. And also that people are aware that some judgments have been made based on (AI-augmented, perhaps would be a way of putting it) AI-augmented processes. But the very first word of peer review about it being peers, I think, means that you can't, wouldn't want to aim to replace that anyway, with with AI. There's that scientific understanding, or, you know, whatever the discipline might be, and scholarly understanding that needs to be applied to the, to the research. And that's something that's not readily replaced, and we shouldn't be aiming to do so.

James Phillpotts 36:04

Part of the, kind of, "peer" part of peer review is that with journals research, you're talking about primary research being published, right? So it's, kind of, by its nature, right towards the edge of our understanding for a particular discipline. And that's why we're kind of publishing lots of material, obviously reviews and things that are published as well, but often you'll be having, kind of, cutting-edge research that's being published. AI is based on looking at and being trained on past publications, past information that's out there. So it can absolutely help in terms of picking up trends, or picking up where there might have been plagiarism, or where something may not be as novel as it appears. And so it'll be a really helpful kind of pointer, potentially, for reviewers to look at, to, to have that information, to hand some kind of prompts from an AI, may be helpful in that process. But by the very nature of it being primary research, and artificial intelligence is not best placed to make a judgment on whether that's

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good research or cutting edge or novel or not, that's something that absolutely needs to be done by a human.

Jenn Saboe 37:37

That's a great point, certainly. Thank you so much, James, we really appreciate you joining us on the podcast.

James Phillpotts 38:44

Thanks for having me.

Jenn Saboe 38:46

We once again want to thank our guests, Laura Jose, Amanda Boehm, and James Phillpotts, for speaking with us about the future of peer review for Peer Review Week. Please check out our show notes on the OUPblog for a recommended reading list exploring just a few of the ideas discussed today.

Jenn Saboe 39:01

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Jenn Saboe 39:20

Finally, we, of course, want to thank the crew of The Oxford Comment for their assistance on today's episode. Episode 87 was produced by Steven Filippi and me, Jenn Saboe. Thank you for listening.