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Abstract:
Peer review is an integral part of an ethical scientific publication process. Though not perfect, it has not been replaceable in the last couple of centuries since the advent of scientific journals. Recent innovations include online anonymized credits for peer review that can be used to augment an academician’s resume. Submissions and retraction are ever growing, increasing the demands from peer reviewers. The rewards may not seem commensurate but any person of science should contribute to peer review as a guardian of science. This short review looks at the ideal peer review along with inherent challenges. It makes suggestions on how novice and intermediate reviewers can improve their contributions as well as introduces various resources relevant for peer review.

Keywords: Peer review, Publication ethics, Crediting, Misconduct


INTRODUCTION
As the name suggests, ‘peer’ review is a critical review done by one’s contemporary researcher or academician who has some contribution or knowledge in the field related to the submitted work. Peer reviewers have been hailed as the guardians of science as well as a necessary evil. Both are possibly true.

The role and limitations of peer review have been dissected a hundred times but no one has been able to suggest a practical alternative system [1]. It is often a demanding job and often editors have to face reviewer refusal due to several reasons including reviewer fatigue, lack of time or dissatisfaction with the editorial system [2]. Things have changed in the last decade with reviewers getting credit for their work on online platforms such as Publons [3]. The peer reviewers from Asia have been discussed previously [4, 5]. Academia and researchers from Central Asia are taking a stride forward [6]. The next step includes honing the reviewing skills of these reviewers to optimal levels. This narrative review aims to focus on different aspects of peer review for the beginner as well as the intermediate-level author cum researcher.

CHALLENGES IN PEER-REVIEWING
The primary challenge is perhaps in defining who is a “peer” for a certain manuscript. There is no consensus on this and it will depend on the handling editor. Other challenges include it being slow and expensive, and there is sometimes a lack of congruity between two
contemporary peer reviewers. Then there are biases such as those against papers with negative results and finally, the misuse of peer-reviewed material for plagiarism before the original work is published [7].

The number of retracted papers slowly has risen over the decades [8]. This also has been an issue during the initial part of the COVID-19 pandemic [9]. But, it should also be remembered that a lot of non-peer-reviewed manuscripts were being shared on social media and they created more havoc than those from peer-reviewed sources [10]. Another challenge is for the editors to retain good reviewers. Good reviewers may be approached by multiple journals. Being overburdened they are likely to fatigue earlier. Thus, there should be some sort of compensation. The start of the Publons reviewer crediting system has been a major boost. Now peer reviewing can be a separate academic credential.

ETHICAL CONSIDERATIONS
Trust in the system is integral to peer-reviewing. This was a central theme during the peer review week in 2020 near the peak of the COVID-19 pandemic when medical reviewers were stretched thin battling for their patients as well as dealing with a deluge of submission [11]. “Soft” or superficial peer review is more likely to do harm than good [3].

The peer reviewers also need to explicitly mention their potential conflicts of interest. The conflicts of interest are often academic rather than financial [12]. If a reviewer gets a new idea from reviewing a manuscript, it is ethical to wait till the article is published before using that particular idea.

FRONTIERS FOR PEER REVIEW
A major challenge in finding peer reviewers are for rare conditions or out-of-the-box innovations. It has been shown that novel translational work often scores low in the peer review process and even gets rejected [13].

Peer reviewers should also be acquainted with reviewing manuscripts dealing with ethical or even hypotheses. These are increasingly being considered by journals and require special perspectives for reviewing [14].

PEER REVIEW MODELS
The various blinded and open models for peer review are discussed in detail elsewhere [15]. These can be internal (in-house) or external. Post-publication reviewing has its advantages and disadvantages [16]. Pre-publication peer reviews on pre-print repositories are more common in non-medical versus medical backgrounds. One small study did not find many objective differences between pre-prints and finally published versions. But there are methodological issues because we do not have objective measures for assessing the effects of peer review.

Blinded reviews may have different biases as compared to open reviews [17]. A blinded peer review also has its advantages. The reviewers’ comments are usually more specific than those of the editor [11]. This may lead to the author taking the comments more personally, resenting them as an attack on their work [18]. However, as science takes a more open approach, blinding is being minimized. Top journals such as the Nature publishing groups are slowly switching to open models of peer review, though they still offer the choice of reviewer anonymity. Such a decision has cost them some previously reliable reviewers [19]. The safeguarding of the reviewers’ interest has to be balanced against the desire for transparent peer review.

THE REVIEWER AS A SUPPORTER RATHER THAN A CRITIC
New authors are often afraid of reviewers. There is popular lore that “reviewer 2” is the more dangerous one amongst all, though this has not been validated [20]. The onus is also on the reviewer to refute this picture. A reviewer spends so much time and energy evaluating a manuscript. Thus, a wrongly used word may put off or even antagonize the author. Everyone benefits once they realize that there can be a symbiotic relationship to ultimately improve the paper.

Certain scientific societies [21], journals [22] and even Publons [11] are offering peer review mentoring programs to groom the next generation of reviewers. Such resources are required to build-up the core competencies of novice as well as intermediate reviewers. There need to be systems of appraisal to check newer strategies and metrics for peer reviewing [23].

ROLE OF PUBLONS FOR PEER REVIEW
Publons is not only a crediting system for peer review, it now integrates with the WebOfScience and ORCID platforms to show the expertise of each reviewer as an author. It also shows the width and breadth of different journals for whom reviews were completed by that review. The “Publons Academy” was launched recently to help novice reviewers learn the science and art of peer review under the mentorship of an experienced reviewer. Now Publons also allows post-publication reviews that will both strengthen the value of published manuscripts as well as provide practice for new as well as intermediate reviewers.
MISCONDUCTS IN PEER REVIEW
Predatory journals and possibly some newly launched journals attempt to bypass the peer review system in an attempt to get a larger number of articles [24]. This implies fake or ‘soft’ peer review. Often they may enrol genuine reviewers for the record but simply ignore the recommendations of the reviewer.

In 2015, a systematic fraudulent review system was discovered that led to the retraction of at least 42 manuscripts by a well-known publisher [25]. Advantages of the electronic submission systems were used along with fake emails sounding similar to ones of famous researchers and academicians, to manipulate peer review [26].

THE IDEAL PEER REVIEW
The ideal peer reviewer needs to be multi-faceted: proficient experts, altruistic, familiar with journal requirements, unbiased and ethical, self-critical, reliable professionals, skilled critics, respectful communicators, advocates for authors and advisors to editors [27]. Most journal editors feel that rather than formal training in peer review, it is the authorship experiences that enhance the quality of the peer-reviewer [28].

Various guidelines have been postulated to help peer reviewers. The standard ones include the recommendation of the Committee of Publication Ethics (COPE) [29]. The World Association of Medical Editors (WAME) has set priorities to identify the best peer reviewers and how to avoid peer review manipulations [30]. Along similar lines, the Council of Science Editors (CSE) have a white paper that has rolling updates to inform best practices for promoting integrity in various aspects of scientific publishing including peer review [31]. Suggestions for peer-reviewing are summarized in Figure 1.

CONCLUSION
Peer review is best learnt by carrying it out. One should be aware of all publication ethics as well journal requirements. Today mentoring systems are available for beginners. Also, peer review is creditable increasing its appeal and helping journals and editors select the best reviewers for a certain job. It is an art as well as an exacting science. Thus, it is difficult to quantify but editors seldom disagree on whether an individual review is good or not. Thus, each reviewer can personalize their style keeping circumspect about ethics and the underlying science.

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CONFLICTS OF INTEREST
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DISCLAIMER
No part of this article has been submitted simultaneously or published elsewhere. All views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any institution or association.

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Figure 1. Flowchart on how to approach peer-reviewing a manuscript
Рецензирование является неотъемлемой частью этического процесса научной публикации. Хотя сам процесс не идеальный, за последние пару столетий с момента появления научных журналов его нечем заменить. Современные технологии усовершенствовали процесс рецензирования, в частности, разработаны анонимные онлайн-кредиты для рецензирования, которые можно использовать как дополнение резюме академиков. Количество представлений и отзывов постоянно растет, что увеличивает требования со стороны рецензентов. Награды могут показаться несоизмеримыми, но любой ученый должен внести свой вклад в экспертную оценку как защитник науки. В этом кратком обзоре рассматривается идеальная экспертная оценка, а также присущие ей проблемы. Также в обзоре содержатся предложения о том, как первичные и промежуточные рецензенты могут улучшить свой вклад в развитие науки, также в статье представлены ресурсы для эффективного рецензирования.

Ключевые слова: рецензирование, публикационная этика, кредитование, неправомерное поведение

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