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Peer review system - professional ethics

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"...there is hardly a paper published that has not been improved, often substantially, by the revisions suggested by referees."

(*cit. in ref. 1*)

The editors of a scientific journal establish a process for evaluation of the manuscripts submitted to their journal. The process of this evaluation is done by the reviewers (referees, manuscript assessors), who are the very heart of the peer review system. Therefore, the critical components of editorship (2) are:

- * Identifying qualified reviewers according to the profile of the journal
- * Defining the responsibilities of reviewers
- * Ensuring that reviewers complete their work in a timely fashion
- * Finding ways to reward the reviewers.

Identifying qualified reviewers. Reviewers are selected among the most prominent scientists in the field (competence). They are knowledgeable about the subject of the manuscript and related literature; they are familiar with the journal to which manuscript is submitted and also with the needs of its audience (3). Besides, they should not be related with either the actual work presented in the manuscript under the evaluation, or with its authors (independence).

Providing adequate pool of reviewers is an important part of Good editorial practice, without which no journal can reach the main goal of the scientific publishing - to publish papers of internationally accepted quality standards.

Defining the responsibilities of reviewers. The main duties of a reviewer are:

* To determine the level of significance of the findings in relation to the mission of the journal, and

* To guarantee that the process of identifying critical controls and analytical pitfalls has been carried out in a formal and considered manner (4).

It is generally accepted that the peer review process for journal publication is the best safeguard against inferior literature in science. Therefore, the reception of the paper by the audience should be the reviewer's chief concern. The reviewer must be aware of his/her role as a manuscript assessor - to advise the author how to improve the manuscript and to help the editor to judge and justify the acceptance/rejection of the paper (3). Therefore, the reviewer's role is purely the advisory one - no more, no less.

A good reviewer is aware of the pitfalls of the peer review system, the subjectivity being the first among them (5). Since he/she is usually an active investigator, he/she understands, and also appreciates, the underlying hard work of a manuscript and the sensitiveness of the authors about their own intellectual product. Therefore, a wisely chosen reviewer maintains high standards, both the professional and ethical ones, of his job.

The reviewer is also aware of the vulnerability of the process of assessment of manuscript. The ethical issues of great concern are: **Be competent!** Peer review requires that the reviewer be expert in the subject under review. If the reviewer finds himself insufficiently familiar with the specialized discipline the manuscript belongs to, he/she should return the manuscript to the editor; he may suggest other colleague (peer) for this job. Inadequate peer review is highly damaging, since it makes the public ill informed and misled. Therefore, bad reviewer undermines the whole peer-review system.

Be responsible! Reviewing a manuscript is a responsible job. It engages full attention, it is time-consuming, and it is usually unrewarded. In spite of that, many reviewers readily accept to review, since it is a good way to be aware of the newest investigations in the field. If the reviewer lacks this motivation, he/she should return the manuscript to the editor with suitable explanation, rather than

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reviewing carelessly. If accepted, the job should be done correctly, with full awareness of the professional responsibilities. Whatever the editor's definitive decision about acceptance/rejection of the manuscript should be, the reviewer stands behind his opinion, but equally keeps an open mind and accepts the authors' well-argued responses to his criticism.

Be fair! The first instinct of the authors of the rejected manuscript is to get angry with both the reviewers and editors. This feeling will soon be overcome by careful reading of the reviewer's comments and suggestions, providing that the criticism is fair, constructive and polite. Such an approach is the only way to provide that the review process is meaningful and useful to both authors and editors. Although occasionally argued that the anonymity of the authors ensures fairness, editors encounter very few (perhaps 0.1 percent or less) instances of unfairness and blatant bias expressed by referees (1). If reviewer does make any derogatory comments, the editor may decide to withhold all such comments from the authors (2,6).

Review in a timely manner! The authors are always anxious to learn about the fate of their manuscripts. On the other hand, the reviewers are active investigators, and therefore preoccupied people; when reviewing, they are volunteering their precious time. Authors should appreciate this fact by sending the version they believe themselves cannot be improved further; on the side of the reviewers, good scientific practice obliges them to do the job within a specified, short time limit (usually 2-3 weeks). Failure to do so additionally, and unnecessary, protracts already too long process of publishing, and therefore is unacceptable (7).

Treat the manuscript as a confidential document! One principle of utmost importance is that research findings that are under review are strictly confidential. When reviewing a manuscript, the reviewer has access to the information being of some other person's intellectual property. Reviewers must not make any use of the work described in the manuscript (2); the process of reviewing should provide that the author's intellectual property is protected until the paper is published (8).

In some cases, reviewers have failed to maintain the confidentiality of the review process, have stolen ideas or plagiarized text from the manuscripts under review, or have failed to report suspect manuscripts (8). The deception of the principle of confidentiality is a serious violation of the publishing ethics. These events occur rarely, but when they do, they are usually grave. A reviewer known to have abused confidential information must not be consulted again and must be debarred from any other peer review job (9). Dealing with cases of reviewers misconduct (including the sanctions to be imposed) is the question of quality assurance in good editorial practice (10).

Disclose conflict of interest! Keep in mind that the reviewers'

position is very sensitive to the issues of conflict of interest. This is why the editors try to select their reviewers among the scientists independent of outside influences. They do it in a way that avoids any conflict of interest, real or apparent. Sometimes, the author may suggest the referees he believes to be inappropriate, competitive, unfair etc. The editor can honor these disclosures, but he is in no way obliged to do so.

Despite all precautions, conflict of interest may occur, and the reviewer is bound to disclose them. It is in the individual reviewer's own best interest, since it serves to confirm his reputation of a fair and neutral expert (11).

Be author-helpful! It is generally accepted that best reviewers concentrate on offering useful advice to authors rather than giving summary of judgments to editors (12). They are candid with the authors about what they see as strengths and weaknesses in the paper. A wise author will make use of the reviewer's comments and suggestions even when his manuscript is rejected (3).

Keep the anonymity! Reviews are occasionally fully open, when the authors and reviewers are identified to each other (3). The scientific journal may use so-called blind review, in which the authors' names are not revealed to the reviewer nor the reviewer's name to the authors. If the journal practices the latter, the reviewer is obliged to respect the principle of anonymity.

CONCLUSION

It is important that all actors in the refereeing game understand that peer review system serves only one goal - to publish good science. In order to reach this goal, reviewers must be both author- and editor-friendly. "In the context of science, at least, it should be important to remind reviewers that they are servants, not lords. Reviews often suggest that the reverse was assumed" (5). Both professionalism and ethics must be preserved, which can be achieved by reviewing consciously and avoiding above-mentioned cardinal sins. As in all other situations a scientist may face, the best way to safeguard high ethical principles of science is simple: adherence to the golden standard - not do to others what one does not wish to be done to himself!

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