What is the Role of Cross-Reviewing in Effective Peer Review?

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Peer review is a delicate process fraught with conflicts of interest. This is inevitable because researchers are largely competitors while few outsiders are capable of evaluating their work. Some conflicts must be tolerated for the system to make any headway. But "cross-reviewing" is too great a conflict of interest to allow. Cross-reviewing happens when X reviews Y's work and discovers that it is substantially similar to his own unpublished research. X then feels he would be "scooped" by publication of Y's work.

The stakes are frequently so high that it is hard to imagine even the most scrupulous person remaining objective. X may have years of work and hundreds of thousands of grant dollars invested in his unpublished research. The conflict of interest involved is similar to what would arise if we allowed X to review his own work for publication; self-interest of the same kind and degree blinds objectivity in both cases. Yet while self-review is universally prohibited in all research fields, cross-review is not always recognized as a problem or explicitly ruled out.

Cross-review is in fact worse than self-review in two ways. First, X's conflict is obscure or entirely hidden to decision makers who then give his review more weight than they ought. Second, X's review leads to improper dissemination of ideas from Y to X.

The dividing line here is that X's competing work be ***unpublished*** and derived from a ***significant investment*** of his resources, while Y's is a ***substantial danger*** to its publication. It is not as problematic if X has a large body of work on a similar topic to Y's submission but has now ceased working in that line, or if Y's work is complementary to X's, or is just related but not a danger to publication of his own work.

How can we detect and prevent cross-review? Editors and others who solicit reviews don't generally know what their potential reviewers are currently working on since this work is as yet unpublished. Research communities should therefore develop a culture of self-disclosure. More explicitly, if I am solicited for a review and discover by reading the submission's title and abstract that it represents a substantial danger to my own unpublished work, then I should recuse myself on that basis. If I discover this conflict only after I've already agreed to review the work, then I should discontinue further reading and notify the review solicitor/editor immediately. Nor should I assign reviewers or undertake any decision-making role on a submission on which I have a cross-reviewing conflict. I should absolutely never assign colleagues or students as reviewers who have the same cross-reviewing conflict on it as I do.

Similar but less severe conflicts that fall below the dividing line we've established should be dealt with in a dialog between review solicitor and potential reviewer. If the review is still undertaken, these conflicts should certainly be disclosed to decision makers and also to submission authors when practicable.

Such a policy need not and should not rest solely on individual honesty and good faith. Violators can be discovered and disciplined, and not every violator need be detected to ensure the system is substantially safeguarded. Competing researchers often submit overlapping work to the same publication vehicle, or to different vehicles whose review process happens at about the same time. These same researchers may then be solicited as reviewers for each others' work, under the supervision of other reviewers and editors. So cross-reviewing situations, where X has not properly identified his cross-reviewing conflicts, often come to light. Or they may appear after X's own work is later submitted for publication. Additional detection mechanisms could be imagined.

Enforcement can justly occur though only if the principle to recuse oneself from cross-review immediately upon solicitation is widely known and held by everybody in the field: editors, and senior and junior researchers who are potential reviewers or solicitors of reviews.   Reaching a consensus to adopt this policy is the first and most important step. In answer to the title's question, there is no proper role for cross-review as we've defined it no matter how much expertise the reviewer brings to the topic, just as there is no role for self-review. Such a cultural policy would improve the effectiveness of peer review, foster collegiality, and reduce cases of abuse.