

# CURRENT SCIENCE

Volume 76 Number 10

25 May 1999

## EDITORIAL

### Peer review

The noun 'peer' (in the context of science and evaluation) is defined by the *Oxford Dictionary* as 'one equal in civil standing or rank; equal in any respect'. Among scientists the term 'peer review' is often the subject of much discussion. Artists, musicians, authors and poets are evaluated by their public following, who do not usually pretend to any special skills necessary for sitting in judgement. In fact, specialist critics who write in the literary sections of newspapers and magazines can be devastatingly critical, without having the slightest influence on the public perception of an author's work (and most importantly on the sales of a new book). But in science, matters are different. Scientists invariably pride themselves that they are evaluated by their 'peers'; and not by a public mass, ignorant of the subtleties of their craft. Science has become so specialized that many scientists are firmly convinced that anyone who does not belong to a specific sub-discipline is hopelessly incapable of making any meaningful judgement. 'Peer review' is the accepted norm and is a process which permeates every area of scientific activity, including evaluation of papers for publication, grants for funding and decision making on awards and rewards of every kind. In evaluating academic scientists for promotion, their performance is almost always judged by peers; immediate superiors are expected to play only a minimal role. The composition and constitution of peer groups thus, assumes very great significance. An intriguing feature of scientific activity is that many scientists reach a stage where they seem to be on both sides of the fence; one day they are the judges, while on the next they are supplicants. Indeed, the only members of peer groups who do not seem to have a substantial conflict of interest are scientists, who have retired from active science, but are still highly visible on evaluating committees. Since peer decisions impinge on every aspect of a scientist's professional life, it is not surprising that most researchers have a very strong view on the practice of peer review.

The editorial offices at science journals are usually caught in the crossfire between authors and referees. Most authors (probably, rightly) are convinced of the merit of their work and the lucidity of their presentation. Many respond in a positive manner to criticism of their manuscripts by referees and indeed even acknowledge reviewers in their final published work. Some are overly sensitive and often trigger a duel with referees in which the editorial office acts as a passive spectator (and facilitator). Authors who are most sensitive to criticism are often the most critical of referees, themselves. Woe betide the editor who accepts a paper against their recommendation. In discussing Third World science (and publications) there has been some debate on whether the process of peer review (which of course, includes editors) at Western journals is biased against authors from developing countries. Western editors strongly deny any bias and there is ample evidence that the best of Third World research still appears in top ranking Western journals, suggesting that geography and national origin may not unduly influence the peer review process.

The peer review process in our journals (*Current Science* is a prime example) is also the target of sniping. A recent (unfortunately, anonymous) letter is from a disgruntled reader (fellow scientist and presumably sometime author) who criticizes a published paper, charging editors with using 'mediocre referees' who allow poor papers to appear in print. He attacks referees and charges them with prejudice: '*It is well known to the whole world that many referees of Indian journals are a prejudiced, lazy lot who often do not bother to read critically the manuscript sent to them spending time and energy, but pass a manuscript as suitable for publication merely on the basis of the institution from where it comes. For instance, if a paper is from one of the Central government supported institutes, then even without reading the article carefully, it is passed for publication. ... But the same hypocritical referee may retain a*



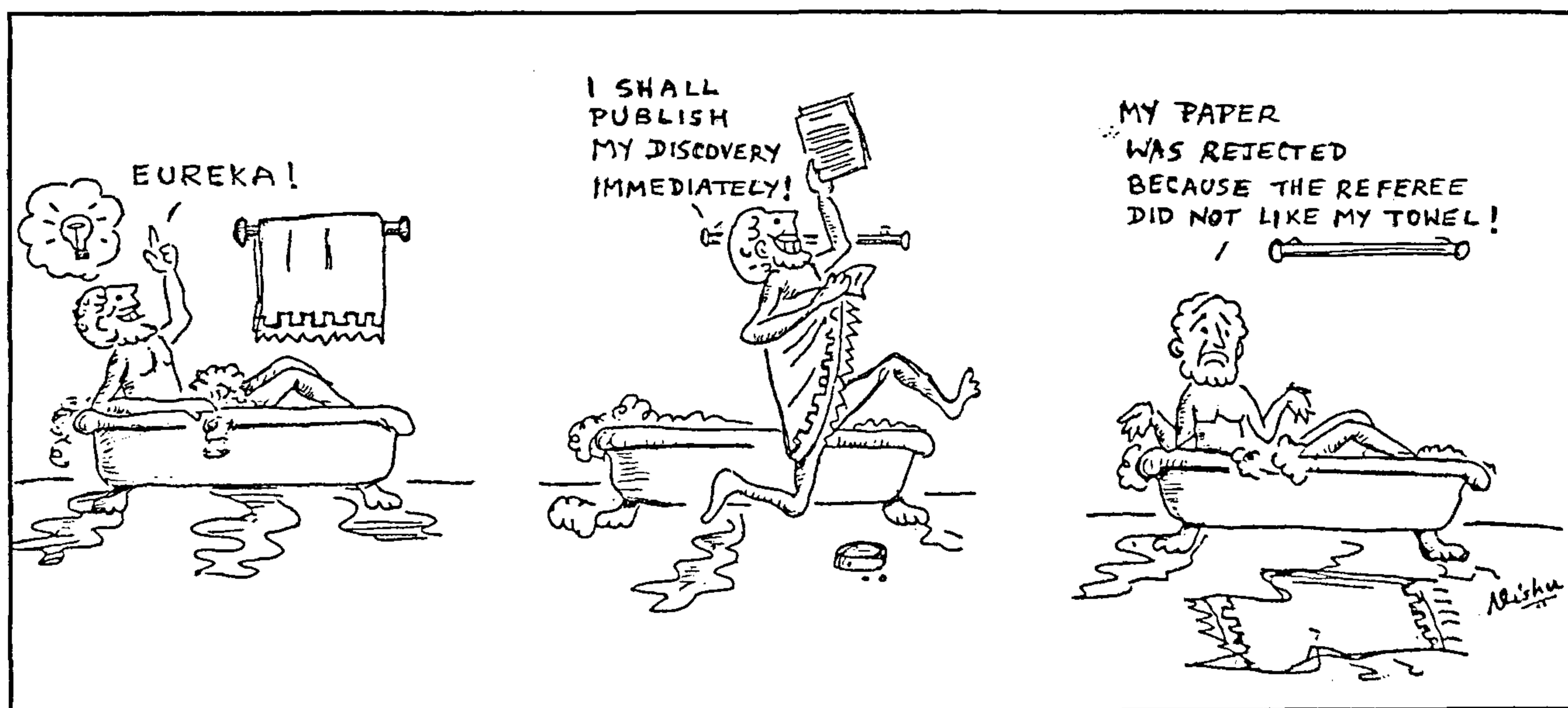
well written article of international standing coming from a less known institution or student of science, for months and years together without commenting and finally under pressure from the author (routed through the editor of the journal of course, because the referee is kept anonymous), sends back the manuscript after making some silly comments, concluding that it is not fit for publication.' Harsh words, indeed, but have not the same thoughts crossed our minds when manuscripts are returned after apparently superficial and frivolous review. Our anonymous correspondent offers to reveal his name, provided the veil of anonymity is lifted from referees also. Journals the world over have debated the issue of anonymous reviewing, but the vast majority of the most prestigious publications have not come up with a superior alternative.

In the case of grants (and many awards) peer review procedures are often more transparent. Even though anonymous referees reports are sought, most often the

decision making is done by committees, whose membership is no secret. Here the 'peers' are out in the open, but the rumbles of discontent with the system are no less. The problem of course, is that even collective decision making is subjective and for every winner there are several losers.

The peer review process is unique to scientific activity and sometimes the 'peer groups' can be separated by continents. Citation analyses can often reveal transnational groups; clusters of geographically separated scientists who work in the same area and are fully aware of each others work. Indeed, editors often choose referees by scanning reference lists, although this primitive practice is being replaced by computerized databases of potential 'peers'. Despite all its obvious imperfections it is unlikely that peer evaluations are likely to be replaced by a radically new system.

P. Balaram



C.V. Vishveshwara