Academic management

SIR — There seems to be a general misconception among scientists about decision-making committees such as search committees and review boards.

Filling an academic vacancy is a management task where scientific performance is just one of many criteria leading to the selection of a candidate. Whether the use of impact factors is sufficient to evaluate scientific performance[1] or not[2,3], other factors have to be taken into account as well. Whereas these explicit academic management objectives are more or less well defined and intuitive (scientific maturity, teaching skills, grant application proficiency), it is the implicit objectives[4] the scientific community has to be wary of.

It is misleading and frustrating, especially for young scientists, that within scientific disciplines it is assumed that academic promotion will follow processes that are somehow related to the inference mechanisms in science itself. Given the same dataset, it is assumed, we arrive at the same conclusions. It is trite to say that neither science nor appointments work that way. But it is exactly the different interpretation of the applicants' performance data that provides an excellent mask for the personal objectives of committee members.

It has been pointed out that personal objectives can result in favouritism, and although many countries require advertising of vacant academic positions in scientific journals, and although equal opportunity is usually assured, the null hypothesis that "local candidates are equally or less likely to be appointed than others" (where "local" should be carefully defined) will have to be rejected[1,5]. Unfortunately, university regulations or law in many countries require advertising even for positions that are in fact already bestowed.

In my opinion, two points have been disregarded in the discussion so far. First, a tied (or split) decision within a decision-making committee results in trade-offs among power factions, which in turn leads to the promotion of the candidate who represents the lowest common denominator. And second, the aversion factor may even render scientific excellence detrimental to selection. A qualified scientist or teacher can be highly motivating for many of his or her colleagues and at the same time threaten the establishment by questioning authority of, in particular, two kinds of scientists: the superficially successful scientist whose research is run by low-level members of his or her research team, and, the scientist whose tenure, obtained a long time ago, preserves a chair in an office in case he or she cannot sit on a committee. Neither of them has a vital interest in the appointment of a troublemaker (and having a critical letter published in *Nature* qualifies as such). Unfortunately, it is these two kinds of scientists who can spend their time lobbying on their own behalf. And let's not forget, the members of these committees exert power. Change in academic management is unlikely and can come only from within the scientific community itself. Until then we are stuck in a tragedy of the academics in Hardin's sense[6].

Academic hiring is already prone to abuse when evaluation procedures of applicants' achievements are clearly outlined, as reported by Gaetani and Ferraris[1]. The potential for arbitrariness increases when there are no guidelines for decision-making committees. After questioning the selection process for an instructor position at the department in which I am working, a review committee concluded that: "It is a measure of our informal atmosphere and congeniality that we lack formal criteria...".

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Neem pest not a mystery

SIR — There is no mystery about the insect responsible for severe damage to neem trees[1]. It is a mirid bug[2] called the 'tea mosquito' (*Helopeltis antonii* Signoret, Heteroptera; Miridae), confined to South India, Sri Lanka and the Andaman Islands. The nymphs and adults suck the sap from the shoots, resulting in lesions that coalesce and become necrotic with gummosis. The shoots eventually wilt and the infested tree has a burnt-up appearance. This phenomenon is seen every year in the state of Tamil Nadu. The insect has a host range of more than 35 species belonging to 24 plant families that include commercial crops such as cashew, cocoa, tea and guava.

Neem is an evergreen tree in which flushes of new leaves with panicles appear in February–March and fruits mature in June–July. New flushes continue after the fruiting season until September. Even though *H. antonii* breeds continuously on neem, the outbreak occurs during the non-flushing season (November–December) in the hinterland. The affected tree maintains its burnt-up appearance until the following February. In coastal areas, there is a minor outbreak in October–November. The major outbreak occurs in summer (March–April) on new flushes which rejuvenate after a month. In both regions, however, productivity of neem seed is affected in the infested trees.

While feeding, *H. antonii* injects toxic saliva into the plant, causing phytotoxaemia. From the salivary glands of the insect, we have detected hydrolytic enzymes (protease and lipase), and oxidoreductase enzymes (catechol oxidase, peroxidase and catalase). These enzymes[3] cause phytotoxaemia as well as detoxification of plant chemicals that defend against herbivores. Moreover, free amino acids present in the saliva of *H. antonii* interfere with plant defences and protect digestive enzymes of the saliva from denaturation[4]. This mechanism allows the insect to overcome the defensive chemicals present in neem and to establish itself as a primary pest and cause severe damage.

Three species of endoparasitic wasps, *Ufens* sp. (Trichogrommatidae), *Erythmelus helopeltidis* Gahan (Mymaridae) and *Telenomus* sp. *laricis* group (Scelionidae) attack *H. antonii* eggs in the remaining part of the year, thereby limiting damage to new leaves.

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Ads from the edge

SIR — I rarely read your advertisements, but the paid advertisement "Marinov: Annus Horribilis" (*Nature* 28 March 1996) caught my attention. Marinov's treatise appears to debunk most of the orthodox science you regularly publish.

That raises the following questions: can I bypass the *Nature* review process by buying a paid advertisement for questionable scientific theories? What are your editorial standards for advertisements appearing in *Nature*?

If this letter does not appear in the Correspondence pages in the near future, I shall publish it as a paid advertisement.

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■ *Nature* has from time to time nodded in the direction of freedom of speech by allowing unorthodox science into its advertising pages. This permissiveness will continue to be whimsical. — Editor, *Nature* □