

CORRESPONDENCE

Negative results need airing too

The problem of the invisibility of negative results is underlined by the media storm over a paper supporting extrasensory perception being published in a reputable psychology journal (see *The New York Times*, 5 January 2011). Although individual reports might be statistically valid in isolation, their conclusions could still be questionable — other test results of the same hypothesis must also be taken into account.

Say a study finds no statistically favourable evidence for a hypothesis at the predetermined significance level ($P=0.05$, for example) and, like most with negative results, it is never published. If 19 other similar studies are conducted, then 20 independent attempts at the 0.05 significance level are, by definition, expected to give at least one hit. A positive result obtained in one of the 19 studies, viewed independently, would then be statistically valid and so support the hypothesis, and would probably be published.

Statistical corrections are routinely made for multiple testing within a study, but they are important across studies too. The difficulty lies in determining the number of parallel investigations of the same hypothesis. Perhaps different disciplinary research societies could help bring these covert experiments to light.

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Think bigger for conservation

The US initiative to ‘think big’ about landscape-conservation cooperatives is an imaginative approach to conserving species

in the face of climate change (*Nature* 469, 131; 2011) — but thinking needs to be bigger still.

Because climate change is likely to shift entire biomes, we urge proponents to include the entire continent as a management area, with flexible borders between particular units.

We suggest that such cooperatives should collaborate with and learn from other large-scale conservation ventures, such as the International Model Forest Network — an integrated resource-management system that has operated globally since 1992 — and Natura 2000, in which different sectors and agencies are collaborating across Europe to conserve biodiversity.

Cooperation between agencies at various levels and geographical locations could then be tailored to meet particular conservation requirements.

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Research type can affect citation rate

You do not mention possible confounding factors in your discussion (*Nature* 468, 1011; 2010) of the reported positive effect of first and last author geographical proximity on paper citations (K. Lee *et al.* *PLoS ONE* 5, e14279; 2010).

One is that these are biomedical research papers. This field has many different author-sequence conventions and citation cultures.

In basic research, the first author on a publication is typically a PhD student and the last author is his or her supervisor. The papers come from closely knit research groups, especially in molecular biology, and tend to have zero

distance between the first and last authors, and to be cited more frequently than clinical research papers.

By contrast, clinical research projects typically have no clear hierarchical structure among collaborators, and often apply alphabetical ordering of co-authors. Hence, the type of research could also explain the positive correlation you discuss.

The challenge in training researchers to collaborate on publications is to find a balance between face-to-face discussion and the use of new communication technologies.

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Controversy over GM maize in Peru

Researchers from the Peruvian National Institute for Agricultural Innovation (INIA) — which has been enforcing national and international policy on biosafety in agriculture since 1999 — have investigated claims that genetically modified maize (corn) is being farmed in the Barranca valley north of Lima (see go.nature.com/ijkpkz).

The INIA analysed the source and quantity of maize imports, records of seed cultivars, their genetic diversity and planting location. Samples were also tested from the Pativilca River basin — the main river in Barranca and its neighbouring valleys. These came from maize fields, local markets, a local collecting facility and seed companies that sell poultry feed.

Evidence of transgenes was discovered in only some of the poultry grain samples (full details are available in Spanish at go.nature.com/ikgyqj). This finding is not

surprising. Peru imports about 1.5 million tonnes of maize grain annually — mainly for animal feed — from Argentina and the United States, where genetically modified maize is widely grown.

We believe that the Barranca region today is unlikely to be a primary centre of maize diversity. However, farmers there may be growing maize hybrids and other cultivars that have seeds of foreign origin.

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Self-plagiarism in music and science

Composers are much more relaxed about self-plagiarism than scientists. It was practised by the best: take Bach's *Christmas Oratorio*, which recycles several of his secular cantatas, and Mozart's *Mass in C Minor*, which was transformed into his *Davidde Penitente*.

As for Handel, he was prone to reproducing his own and his colleagues' music with equal nonchalance. His love duet ‘No [pause] di voi non vo' fidarmi’ becomes ‘For [pause] unto us a child is born’ in *Messiah*. Same music, different atmosphere.

Some scientists might also defend self-plagiarism on the grounds that the data are the same but the conclusions are not. Even my venerable professor of biochemistry, when I chided him for setting his students the same exam questions he had asked us 20 years before, replied tersely, “The questions are the same, the answers are different.”

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