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Dangers of publication by press conference

Last week's announcement of an unpublished observation of a possible extra-solar planet raises questions about the wisdom of NASA. The agency's need for visible success could undermine public confidence.

Publication of preliminary results by press release is official policy at the US space agency NASA. That was the message implicit in statements last week by Ed Weiler, head of NASA's 'Origins' programme, at a press conference that issued a photograph of a blob that may be a planet associated with a newly forming star system (see page 406). Unfortunately for those interested in the scientific details, there is only an abstract of a conference submission to turn to. But if NASA wanted publicly and promptly to stamp its ownership on the results, it certainly succeeded.

One does not need to read between lines to perceive a deep need within NASA for publicity. Of course publicity in itself is no bad thing; scientists usually benefit from it, as do those journals — including *Nature* — and organizations that cultivate it. Indeed, NASA deserves much credit for an unsurpassed track record in stimulating public interest in science, combined with an awareness of the need for balance and scientific caution. But there are dangers in the process which NASA now appears to be compounding.

One danger arises paradoxically through the strong attention given to science in the mass media. Scientists may be delighted to find science on the daily news pages, rather than ghetto sections, of newspapers. But it can be a Faustian bargain; the pressures on journalists can on occasion — perhaps often, in under-resourced newspapers — leave them with insufficient time to do much more than turn a press release into something comprehensible and sparkling, possibly excessively so. Investigating a research community's broader perspective is too often prohibited by deadlines.

In that situation, NASA's approach last week, if a harbinger of things to come, is likely to undermine the coverage of science. First, the lack of detail in a readily available publication greatly reduces the ability of journalists who are remote from the action, and of scientists whom they might consult, to do justice to the story. Second, a consequence of that is that the public will more often be faced with sensational and triumphant stories that subsequently prove to have been exaggerated or false — a phenomenon that is itself damaging to perceptions of science.

With its unrivalled capacity to command the attention of a large audience, NASA has all the more responsibility to act scrupulously. It is worrying, then, that NASA bypassed the standard peer-review process in last week's episode. Given this journal's vested interest in such matters, the facts should be allowed to speak for themselves. According to its author, Susan Terebey, the manuscript describing the observations has not yet been completed. (One can only doubt that she, and other astronomers in NASA's hot seat before her, enjoyed the public pressures in supporting the agency's goals.) And according to Weiler last week: "we learned of Susan's observations a couple of weeks ago…. The trouble is, Susan submitted her paper to the American Astronomical Society meeting and that abstract went on the Internet. So it essentially was public as of then…. Before [we went public] we put Susan through a grilling — I would maintain a much more severe grilling than the average paper gets in the average journal…. We had five PhD astronomers sit down with Susan and literally [*sic*] grill her with very tough questions for about an hour and a half… and long discussions with [other scientists participating in the press conference] before we went on air…."

That is indeed a form of peer review. But, in principle, NASA's procedure was not detached — organized as it was by the very institution that funded the research and which has a vested interest in a positive and spectacular result. Both in principle and in its practical implications for journalism, therefore, the rush to release a preliminary result is questionable. If it continues with such an approach, NASA risks undermining the respect for objectivity on which the public support for science ultimately rests. □

Hardening the 'soft' sciences

Environmental sciences are not the only disciplines that would benefit from quantitative stiffening.

'Soft science' is a phrase used by some to mean research that is little more than descriptive, lacking a theoretical and quantitative basis that permits specific predictions that can be tested. Given its indiscriminate use and its disparaging overtones, the phrase is of doubtful value. But a call last week from the head of an environmental research funding agency is one symptom of a progressive hardening of sciences traditionally viewed by some as 'soft' but which are also, as it happens, likely to be critically important for the successful management of the planet.

John Krebs, head of the United Kingdom's Natural Environment Research Council, is surely not the first person to call attention to the need for more mathematicians and physicists to engage in environmental sciences (see page 400). He is no doubt battling against an unjustified but chronic dismissive attitude by some 'hard' scientists towards the disciplines that he funds. He is also fighting an ignorance of opportunities as our ability to understand the Earth's systems through experiment and simulation grows. In that ever more complex context, the ability to focus on physical essentials with confident numeracy becomes correspondingly more valuable.

Krebs also asks molecular biologists to help in the protection and sustainable use of the environment. That, too, is a timely summons, but there is also a separate crusade to be waged with them. As physics, chemistry and mathematics offer more in understanding the behaviour of biomolecules and systems in which they interact, so there is a need for a quantitative strengthening of biologists' training. Is that self-evident, and are universities responding, or is there chronic resistance there too? □