

Collaboration still the key to Rosetta

SIR — Your News article about the decision of the US National Aeronautics and Space Administration (NASA) to reduce its commitment to the Rosetta mission (*Nature* 383, 469; 1996) merits praise for bringing to general attention the unfavourable evolution of international collaboration in space science.

It is regrettable that, when budgets decline and opportunities for national scientists decrease, the will to find a place for international partners decreases. We should fight this trend, and the European Space Agency (ESA)'s Science Programme is committed to offering as many opportunities as possible for international cooperation.

From this perspective, I should like to express some reservations about your article, whose stress on the negative aspects can only aggravate the situation.

As the article correctly states, both agencies regret what has happened. And, although it is true that "the United States has pulled out as a major contributor" to the Rosetta mission, it has not pulled out altogether. At the meeting in Washington in September, NASA stated its intention to: continue support to the three US principal investigators on the Orbiter, and consider

support to the US co-investigators; continue support to the previously selected US interdisciplinary scientists; provide a reasonable level of support through the US deep space network; assist, when requested by ESA, in assessing the technical status and progress of any aspects of the Rosetta mission (including the lander); and consider funding any US experiment that could be included in the remaining Rosetta lander.

International collaboration is becoming difficult; let us not make it more difficult by creating reasons for bitterness where there should be none.

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Female forum

SIR — I was outraged and saddened by Dan Graur's letter (*Nature* 383, 116; 1996) about the conference on "Women in Evolution" held at the University of Arkansas in September.

As a participant and workshop discussion facilitator at this conference, and as the bearer of a single X chromosome, I should like to respond. It is true, as Graur points out, that only women were invited as guest speakers, but the conference was not limited

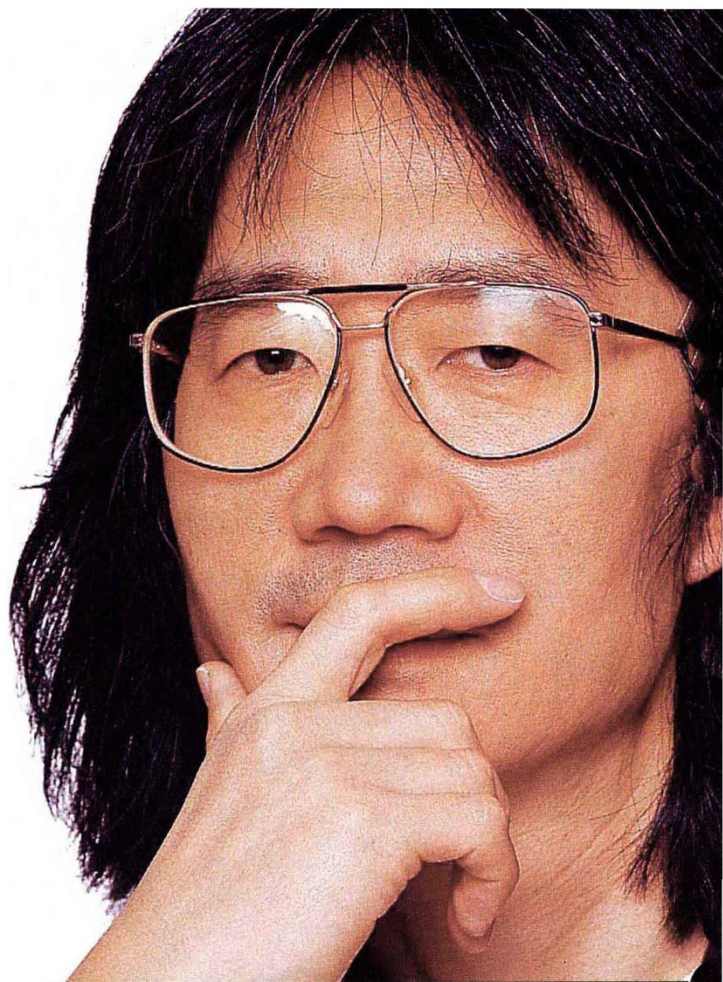
to women. Nearly a quarter of the registrants were male (30 of 134). Graur was not excluded.

Graur's cynical letter leaves the impression that women have not been discriminated against in the field of evolutionary biology. Most informed individuals agree that women have indeed been marginalized and excluded in the past. Although there is less difference in academic rank between men and women in biology than in other scientific fields (*American Scientist* 84, 63–71; 1996), there is poor representation of women in biology faculties in the United States and elsewhere. When academic couples near the completion of their respective PhDs, women are more likely to forgo their careers in deference to their male partners because of the perception that men advance in their careers more readily than women.

As the organizer, Sydney Cameron of the University of Arkansas, said, the conference goal was "to present some of the key areas of evolutionary biology" and "to discuss important issues concerning women and science". By featuring women as speakers, the conference demonstrated the achievements of women in evolutionary biology and the social and professional climate within which they have worked.

Women and men are not treated equally in academic science, including evolutionary biology. Conferences that feature women speakers can help to convince male partici-

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pants of the fundamental equality of the sexes in academic life and to provide women with the self-confidence and positive role models necessary to achieve this equality. That is, after all, the point of women's colleges, which continue to contribute disproportionately to leadership ranks in the United States.

As a future male biology faculty member, who feels privileged to work in a department in which 43% of the faculty are women, I found the conference important in illustrating some of the problems that women face and how those problems might be rectified in the future. It was clear to the sponsors that a conference on "Women in Evolution" would be productive and special, and Graur seems to have missed the point that most conferences are planned by and for "partially bald, middle-aged, pot-bellied individuals".

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Back to nature

SIR — I was puzzled by the suggestion in your leading article "Distrust in genetically altered foods" (*Nature* 383, 559; 1996) that the genetic tailoring of crops is "precisely

the opposite direction" from "increasing demands for 'natural' products". Turning to a familiar paragraph of Rachel Carson's *Silent Spring* (1962), I read:

"A truly extraordinary variety of alternatives to the chemical control of insects is available. Some are already in use and have achieved brilliant success. Others are in the stage of laboratory testing. Still others are little more than ideas in the minds of imaginative scientists, waiting for the opportunity to put them to the test. All have this in common: they are biological solutions, based on understanding of the living organisms they seek to control, and of the whole fabric of life to which they belong. Specialists representing various areas of the vast field are contributing — entomologists, pathologists, geneticists, physiologists, biochemists, ecologists — all pouring their knowledge and their creative inspirations into the formation of a new science of biotic controls."

That seems a fair and farsighted summary of the development of biotechnology in the following three-and-a-half decades, in one of its main fields of application. Subtlety and precision are widespread in nature; it is sad, therefore, to see their use by man stigmatized by *Nature* as unnatural. Molecular biology is part of the "back to nature" movement.

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Making waves

SIR — A. G. Gordon's proposed explanation of the function of the stapedial muscle as a noise protection system triggered by the tactile pressure produced by a blast wave impinging upon the outer entrance of the ear canal is certainly interesting, but unfortunately rather nonsensical from a physical standpoint (*Nature* 382, 665; 1996).

When a pressure wave in a gas becomes sufficiently strong, it steepens into the classic N-shaped wave profile (if one assumes an initially sinusoidal waveform) of a blast, or shock, wave. Shock waves differ from simple sound waves not only in that there is a much larger pressure rise in the fluid associated with their passage, but also in that they travel supersonically. Thus, while a quickly travelling blast wave would indeed arrive at the ear of the listener first, he need not be concerned about the noisy acoustic waves following behind it, as the most dangerous 'noise' from the explosion is the blast wave itself, which would shatter his eardrums (and possibly remove most of his clothing) well in advance of any loud, but conventional, acoustic sounds.

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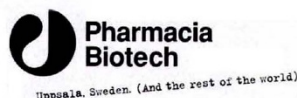
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