
Ecological Science and the Human Predicament

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A physicist says it is not clear to him that the low registration for a human rights workshop reflects a lack of interest or concern for human rights among the physics community. A large group of ecologists propose that "students in ecology [should] devote part of their professional lives to stemming the tide of environmental degradation, and the associated losses of biodiversity...and to teaching the public about the importance of those losses." The functions of the cerebellum are elaborated. The origin of homochirality of biological molecules is explored. And suggestions for training graduate students in biology are offered.

Human Rights Workshop

I applaud James Glanz's in-depth study of the shifting landscape of human rights activism in the physics community ("Human rights fades as a cause for scientists," News Focus, 9 Oct., p. 216), but I take issue with his assessments concerning the implications of a failed human rights workshop scheduled to be held at the



Human rights petition displayed at spring 1998 APS meeting

March 1998 meeting of the American Physical Society (APS) in Los Angeles.

The APS erred in scheduling the workshop in competition with scientific and technical sessions. It should come as no surprise that even human rights activists come to scientific meetings to discuss and examine scientific issues. Thus, the inappropriate scheduling made it difficult for people to commit to the workshop.

In addition, it is highly unusual for the APS to ask participants to pre-register for policy forums, and it was our nervousness about asking distinguished invited speakers to risk facing a meager audience that prompted the cancellation. It is not clear to me that the low registration reflects a lack of interest or concern for human rights within the physics community.

Perhaps a better measure of this interest is the number of signers (1970) of a petition expressing strong support of the scientific community for our repressed and harassed colleagues in the People's Republic of China. And it is also noteworthy that the APS Committee on International Freedom of

Scientists has no paucity of volunteers clamoring to serve. In addition, as many as 200 volunteers serve on the "small committees" that have organized letter-writing campaigns on behalf of imprisoned colleagues and dissidents around the world.

I regret that I did not make these points more forcefully in my discussions with Glanz. Nonetheless, he has provided a great service in his balanced and penetrating report of the stresses within our community—especially among our Chinese colleagues.

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Ecological Science and the Human Predicament

When we began our careers, good science consisted of two basic activities: (i) doing first-rate research and (ii) publishing it in the technical literature for the benefit of scientific colleagues. We firmly believe that a third activity must now be added by all scientists: (iii) informing the general public (and, especially, taxpayers) of the relevance and importance of our work. We are convinced that this applies to even the most esoteric of "basic" research, because understanding how the world works is fundamental to both satisfying natural human curiosity and solving the human predicament.

As ecologists, we further contend that, because of the central role ecology must play in resolving the predicament, the structure of rewards in our discipline must be changed. Now *all* field research is done in systems altered by *Homo sapiens*, and the degree of disturbance is increasing rapidly virtually everywhere. Sadly, in our countries of origin, even areas nominally designated to preserve biodiversity are to a large extent inadequately inventoried, monitored, and protected. There are many tasks in support of just those areas that can and should be carried out or aided by academic ecologists, and career incentives need to be developed to achieve this. Fur-

thermore, incentives need to be found to promote interdisciplinary involvement of young ecologists, because so many of society's greatest challenges lie at the interface of ecology and the social sciences.

In our view, it is necessary to train students in ecology who will be ready and willing to devote part of their professional lives to stemming the tide of environmental degradation and the associated losses of biodiversity and its ecological services, and to teaching the public about the importance of those losses. We believe that such efforts should be rewarded as part of the process by which ecologists are considered for academic posts, granted tenure in universities, elected to membership in learned societies, and so on. Ecology is a discipline with a time limit, because much of what we study, upon which society is dependent, is fast disappearing. Ecologists have a responsibility to humanity, one that we are not yet discharging adequately. It is incumbent on senior ecologists to take the lead in pressing for the needed transformation—and we pledge ourselves to that task.

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The Cerebellum: So Much More

In her article "The cerebellum: The brain's engine of agility" (News Focus, 11 Sept., p. 1588), Ingrid Wickelgren reviews evidence of cerebellar involvement in motor performance. Although she mentions mo-