IACUCs, yet they are not given an exemption from making reliable judgments. IRB lapses like those recently at Johns Hopkins University not only risk the lives of participants, they undermine public confidence in science.

Moreover, Klemfuss *et al.*'s methodological criticisms of our study are wrong on empirical and factual grounds. First, the reliability of IACUC protocol reviews does not increase significantly when the "diverse views" of veterinarians and unaffiliated members are eliminated from statistical analysis. Second, reliability does not vary by the species of animal used (half of the protocols involved rats, so it is unlikely that most IACUC members were unfamiliar with the species used). Third, Klemfuss *et al.* suggest that our study had an animal rights agenda, whereas, in fact, the study was endorsed by the Animal Behavior Society and was financially supported by two directorates of the National Science Foundation. Indeed, one of us (H.H.) is an animal researcher and has served on IACUCs for many years.

Klemfuss *et al.* point out that most of the negative shifts in opinion involved requests by the second committee for more information. What they do not mention is that 17 protocols were categorically disapproved (not simply "deferred") by the second committee, even though 16 of these protocols had been approved by the first committee. Equally striking, of the 72 protocols "approved as written" by the first committee, only 6 received that evaluation by the second committee. If, as Klemfuss *et al.* suggest, these shifts are attributable to factors such as the original committee's reliance on knowledge of the investigator rather than the written protocol—or to the inscrutable nature of particular protocol forms—these explanations provide all the more reason to reexamine the protocol review process.

Rollin and Loew object to "specific rules of the sort Plous and Herzog seem to favor," yet we did not propose any specific rule or animal care standard. What we advocate is not a proliferation of arbitrary regulations but the implementation of procedures to increase the reliability and validity of the review process, such as the development of explicit evaluative criteria, standardization and simplification of IACUC forms, and enhanced training of committee members.

Finally, it is worth noting that our results are not anomalous. They are consistent with previous research on unstructured peer review, including studies of IACUC and IRB decision-making, manuscript reviewing, and grant reviewing (*1*). Therefore, we ask the following question: At what point is the IACUC system sufficiently well established, and the evidence of a problem sufficiently documented, for us to take action?

SCOTT PLOUS,[1]* HAROLD HERZOG[2]
[1]Department of Psychology, Wesleyan University, Middletown, CT 06549, USA. [2]Department of Psychology, Western Carolina University, Cullowhee, NC 28723, USA
*To whom correspondence should be addressed. E-mail: splous@wesleyan.edu

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WHO Ranking of Health Systems

BEFORE DEAN T. JAMISON AND MARTIN E. Sandbu's critique of the World Health Report 2000 (WHR2000) (Policy Forum, *Science*'s Compass, "WHO ranking of health system performance," 31 Aug., p. 1595), there had been other criticisms of the report (*1*). Yet none of these commentaries discussed the fact that the World Health Organization (WHO) was recklessly inattentive to protection and prevention programs in their assessment of health system performance. In WHR2000 (*2*), WHO gives a comprehensive definition of a health system that includes "such traditional public health activities as health promotion and disease prevention, and other health-enhancing interventions like road and environmental safety improvement" (*1*, p. 5). However, WHO's actual assessment of health system performance pays scant attention to these activities that have historically contributed most to improving life and health. Instead, the report focuses almost exclusively on personal health care services—the equity in their distribution and the fairness in their financing. And, indeed, the recommendations in WHR2000 urge countries to improve service provision, resource generation, and health system financing for personal health care services.

As Jamison and Sandbu mention, the WHO rankings are intended to "lead to greater political accountability and to evidence-based health policies," but, that being the case, the focus of the report on personal health services poses a conundrum: If the WHO rankings of health system performance do not assess whether countries are taking advantage of a whole class of prevention activities—those that protect people from hazards in their living and working environments—then why should policy-makers and investors consider or adopt these strategies to improve the health of populations?

How can we correct the glaring omission of health-protecting activities from WHO's analysis and prescription? Jamison and Sandbu provide a hint: Concentrate on the method-

ology. They note that WHR2000 "simply assumes that system performance variation accounts for all [health] outcome variation after controlling for levels of [personal health care service] expenditure and education." Methods are needed for measuring the extent and effectiveness of prevention and protection programs. I suggest that until we have measurements and numbers to describe protection, we will not have, as Lord Kelvin said, "advanced to the state of Science." Nor will health policy-makers pay any attention.

ANTHONY ROBBINS
Department of Family Medicine and Community Health, Tufts University School of Medicine, Boston, MA 02111, USA. E-mail: anthony.robbins@tufts.edu

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1. See, for example, http://www.fiocruz.br/cict/dis/verbra.htm
2. WHO, *World Health Report 2000—Health Systems: Improving Performance* (WHO, Geneva, 2000).

Counting All Species

IN REFERENCE TO THE PROPOSAL BY THE ALL Species Foundation for a complete catalog of life on Earth, which is described in the News Focus article "Up for the count?" by A. Lawler (26 Oct., p. 769), I was quoted as saying, "This is well intentioned but incredibly naïve." The statement, out of context, could be misleading, so I would like to clarify my meaning.

The idea of a complete catalog of species is not new, and efforts related to specific taxa have been under way for some years. What is interesting about the new proposal is that it would include all taxa and take advantage of recent technological developments that could provide a quantitative leap in the area of systematics.

"...what I view as naïve is not the all-species count itself, but attempting to accomplish it without taking into account the present political setting."

Therefore, what I view as naïve is not the all-species count itself, but attempting to accomplish it without taking into account the present political setting. The United Nations Convention on Biological Diversity, signed in 1992 and ratified by 181 countries to date, established national sovereignty over biodiversity, which in effect restricts the free flow of biological specimens around the globe. The Convention also adopted the Global Taxonomy Initiative (GTI), and thus any proposal for a complete catalog of life on Earth must work within this framework.

For the new proposal to succeed given such parameters, two criteria are essential. First, those developing countries where much of the biodiversity is found must have help in building up their taxonomic research capacity both technologically and academically. There are good examples where this is working, including InBio in Costa Rica, CONABIO in Mexico, and the Alexander von Humboldt Institute in Colombia. And second, this endeavor needs to be a truly global partnership, bringing together the systematists and institutions from around the world and giving them the tools and resources they need to work within this new global context.

CRISTIÁN SAMPER
Smithsonian Tropical Research Institute, Unit 0948, APO AA 34002–0948, USA. E-mail: samperc@tivoli.si.edu