A senior researcher on "apolipoprotein E...testing for clinical dementia of the Alzheimer type" writes to defend his position. A letter suggests, "In Viagra, we now have the potential to eliminate the demand for animal potency products." Letter writers justify researchers being funded by the tobacco industry, one maintaining that "[t]he funding story cuts both ways." The "coordinator of the team effort aimed at estimating the net carbon dioxide uptake from European Union...forests" clarifies five points. And the relation between investment in civilian and military R&D is explored.

Patent Income

Jon F. Merz, Mildred K. Cho, and Debra D. G. B. Leonard (Letters, 28 Aug., p. 1288) correctly state that I have disagreed with the interpretation of "experts" concerning the use of apolipoprotein E (*APOE*) testing for clinical dementia of the Alzheimer type. The recommendations of the Stanford "ethicists" (*1*) were not based on published or unpublished data relating to the positive predictive value data of the *APOE4* polymorphism in a susceptibility genetic disease context. In other words, their recommendations were not based on relevant data (*1*), but on incorrect notions and opinions based on traditional autosomal dominant genetics. They may be expert, but not in Alzheimer's disease. *Nature Medicine*, which published their report (*1*), does not entertain responses.

The letter by Merz *et al.* to *Science* implies that I personally receive 50% of the licensing fees and therefore have a conflict of interest. Even if that were true (it is not), the application of *APOE4* still must be based on properly interpreted data. More than 90% of the eight inventors' portion of the Duke patent license income goes to the Joseph Bryan Scholars Endowment Fund at Duke University, the income of which has been used to support Ph.D. students in basic science departments, none of whom were students in my laboratory. To criticize me personally without obtaining the relevant facts is impolite at best, but seems consistent with other fact-poor attacks.

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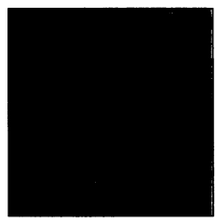
Solution to a Conservation Problem?

African and Asian rhinos are poached for their horns, Asian bears for their gallbladders, tigers for their penises, and the list goes on. Why is there a market for such unusual parts of these rare animals? These animal parts, known in East Asia as "pu" foods, are reputed to endow a man with the potency of the animal itself, or with the potency implied by the shape of the appendage. Efforts to conserve these endangered species, including game warden protection and reintroduction programs, have largely failed because the market forces driving the poaching remain in place. Indeed, the demand for these products has intensified because the Chinese economy and the number of wealthy Asian consumers have grown in recent years. Removing this demand may be a more effective conservation measure and a less costly alternative to captive breeding, artificial insemination, in vitro fertilization and embryo transfer, and other high-tech approaches to the conservation of these animals, whose habitats remain fairly intact but who are being hunted to extinction. In Viagra we now have the potential to eliminate the demand for animal potency products. Provided that the distribution and availability of Viagra are ensured, the East Asian market in pu foods could soon fall victim to Viagra's success; after all, the cost of Viagra is trivial compared to that of rhino horn or bear gallbladder and Viagra's effectiveness is demonstrated rather than hoped for.



A. & M. SHAH/ ANIMALS/ ANIMALS

Saved by Viagra?

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Tobacco: Who Pays Whom?

Jocelyn Kaiser's article "Tobacco consultants find letters lucrative" (News of the Week, 14 Aug., p. 895) presents only one side of the funding story. The anti-tobacco industry pays its scientists, too.

The U.S. Occupational Safety and Health Administration (OSHA) paid University of California (San Francisco) anti-tobacco activist Stanton Glantz $25,000 to testify at the 1994 OSHA hearings on indoor air quality and to summarize the hearings. All told, OSHA paid $150,000 for scientists to testify in favor of its proposal. The National Cancer Institute paid Glantz over $600,000 to research tobacco industry lobbying. Backup documentation is available on both counts.

Meanwhile, Glantz "fumes" because the tobacco industry paid scientists to write letters? The funding story cuts both ways. You can't cover one side without covering the other. The $150,000 spent by the tobacco industry pales in comparison to the hundreds of millions (billions?) of dollars that go into federal and state anti-tobacco programs. And while we are talking about funding, how about the $2 billion in federal money that goes to scientists supporting the Clinton Administration on global warming? That is a lot more than the global warming skeptics receive from industry.

We are better off focusing on the merits of scientific arguments, not who pays to broadcast them, lest we fall into the trap of shooting the messenger because we do not like the message.

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Science's news about tobacco "hired guns" is puzzling, as it implies that there is something wrong if scientists are compensated for writing critical pieces, and especially if they write in support of tobacco industry positions.

The debate about disclosing potential conflicts has not been settled, because a strict requirement—as opposed to a voluntary option—is antithetical to science and cannot be fairly applied. Indeed, many editors refuse to request or print declarations of sponsorship, concluding that it would be a vote of no-confidence for editors, peer reviewers, and readers and in itself a bias in the presentation of facts.

Further, there is the question of how a disclosure requirement could be applied fairly and consistently. Should it be only for those sponsored by tobacco interests or by industry at large? Should stock holdings be declared? Should those beholden to granting agencies be deemed free of conflict? It is unlikely that such questions could be resolved equitably, which means that selective labeling would be at the whim of political perceptions.

The article discusses a 1992 report by the Environmental Protection Agency (EPA) claiming to have confirmed scientifically that environmental tobacco smoke (ETS) causes 3060 lung cancer deaths annually in the United States. A number of

scientists and I have criticized this conclusion for a variety of reasons that are well summarized in last month's Federal Court decision concerning EPA's report on ETS (*1*); the decision notes how the agency disregarded the law, due process, its own guidelines, and internal dissent; used advisory committees populated by its own clients; selectively manipulated and ranked data; disregarded biases and confounders; improvised ad hoc methods of analysis; and flaunted statistical standards to reach the imaginary support of a preconceived position that the agency had publicized some years earlier. The transparent evidence of the Court's decision conveys a moral force that many find deeply uncomfortable, especially since EPA has a long record of weaving its own kind of science to fit favored policies (*2*).

If legitimate doubts about the Court's conclusions are harbored, it would be of value to open a debate about the facts.

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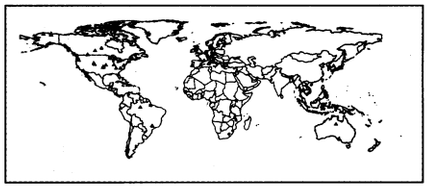
Estimating the CO_2 Uptake in Europe

In her informative and well-written article "New network aims to take the world's CO_2 [carbon dioxide] pulse," Jocelyn Kaiser (News Focus, 24 July, p. 506), reports "preliminary findings [indicating] that European forests absorb a net total of up to 0.28 petagrams of carbon a year—a third of the continents' industrial emissions." As the initiator and coordinator of the team effort aimed at estimating the net carbon dioxide uptake from European Union (EU) forests undertaken under the auspices of the Euroflux project (managed and funded by the European Commission's "Environment & Climate" Programme), which Kaiser cites, I offer five points of clarification. These five points entail major policy implications. First, the uptake estimate concerns the year 1997. Second, I compare the forest uptake figure to all anthropogenic emissions, rather than just to industrial emissions. Third, the estimate limits itself to forests within the confines of EU borders. Fourth, similarly, anthropogenic emissions refer to the EU, rather than to the European continent. Fifth, and finally, I presented our preliminary results at the Netflux meeting held in Montana (3 to 5 June 1998) as a pair of numbers, that is, 0.12 to 0.28 petagrams—between 10%



Global CO_2 monitoring network

and a third of EU anthropogenic emissions. I used a pair of numbers to highlight that such estimates involve unresolvable uncertainties.

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Big Spenders?

In his Policy forum "The scientific investment of nations" (*Science*'s Compass, 3 July, p. 49), Robert M. May concludes that "in countries with relatively high investment in defense R&D [research and development], public funding has fallen