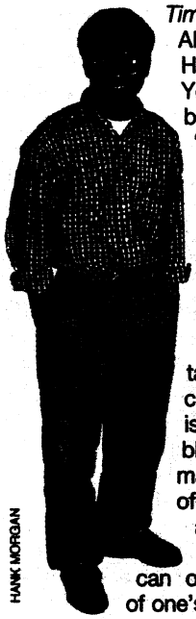
LETTERS

Posing the question



HANK MORGAN

Time (which named AIDS researcher David Ho, left, "Man of the Year") has "bent over backwards" to avoid "hyping medical developments," says their reporter. A particle physicist emphasizes that reaching sufficient luminosity poses a problem for new accelerator design. Attaining "fusion burn conditions" will be, it is said, "a truly notable achievement for mankind." The risks of volcanic eruption and co-authorship are discussed. And can one reduce the size of one's "footprint"?

"Man of the Year"

I know it's quite fashionable to declare that the mainstream media never get anything right, but Jon Cohen's article "The media's love affair with AIDS research: Hope vs. hype" (News & Comment, 17 Jan., p. 298) really goes overboard trying to make this point. Indeed, by lumping together *Time*'s lengthy and carefully nuanced cover package on David Ho as "Man of the Year" with stories that "cross the line that separates hope from hype," the article is guilty of the very sin you accuse us of having committed—oversimplifying.

Selecting "Man of the Year" is about making news, not conferring honor. Anyone who has been following AIDS research knows that 1996 was an exciting year and that Ho's posing of the question "Can HIV be eradicated from the body?" galvanized the community. We at *Time* thought it important to bring this story to our readers.

We were also quite aware that our choice of David Ho as "Man of the Year" might lead some to the false conclusion that AIDS is now all but cured. That is why we made sure that none of the headlines in our 25-page package oversold the story.

Did we do "backflips," as Cohen puts it, in our writing? We sure did. We bent over backwards to make sure that our readers understood that Ho's experiments do not represent the cure. We bent over backwards to make sure they understood that combination therapy is only a stop-gap measure for most people in the later stages of infection. We bent over backwards to make sure they understood that Ho is not the only AIDS researcher in the world. I don't know how anyone who read our package could come away with the "possible impression that Ho is responsible for today's drug cocktails" when we explicitly credited the pharmaceutical industry with doing that work and even spotlighted the late Merck biochemist Irving Sigal, who, with his colleagues, determined the molecular structure of protease.

Is the popular press guilty at times of hyping medical developments? You bet it is. But *Time*'s 1996 "Man of the Year" package is part of the solution, not the problem.

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Particle Physics Pessimism

Dennis Normile, in the first paragraph of his article "More powerful pulses please and puzzle" (Research News, 24 Jan., p. 481), suggests, as do the authors of many articles about results from frontier acceleration techniques, that major progress is being made in developing accelerators that can be used for particle physics. Particle physicists would be delighted if that were so. However, even if the sorts of problems that are discussed in the article can be solved, many units have to be linked coherently to reach the high energies that would be useful for particle physics, and that raises new problems. Most important, in order to be useful for particle physics, a high energy accelerator must also have very high luminosity, because the cross sections for events of interest decrease with increasing energy. No technique I have seen discussed has demonstrated that it can get within orders of magnitude of the needed luminosity. Rather than raise false hopes in the science policy community, it would be better to not discuss the particle physics application until the values for the energy and

the luminosity are nearer to those required for the physics.

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Fusion Firsts?

The sentence "ITER is intended to be the first experiment to study burning, magnetized plasmas and test a panoply of fusion science issues at reactor scale," appearing in the letter by D. E. Baldwin, R. D. Hazeltine, R. C. Davidson, and M. Porkolab (17 Jan., p. 289), does not represent the evolution of an important area of plasma physics and fusion research. In fact, the Ignitor Program was devised and is being pursued and funded in order to investigate, for the first time, the physics of burning magnetically confined plasmas, with all the reactor relevant ratios of the microscopic and macroscopic time scales.

Given the present state of our knowledge, I believe that the following statement made by the President's Committee of Advisors on Science and Technology (*1*) gives the correct perspective for experiments to attain fusion burn conditions.

Producing an ignited plasma will be a truly notable achievement for mankind and will capture the public's imagination. Resembling a burning star, the ignited plasma will demonstrate a capability with immense potential to improve human well-being. Ignition is analogous to the first airplane flight or the first vacuum-tube computer. As in those cases, the initial model need not resemble the one that is later commercialized; much of what would be learned in a tokamak ignition experiment would be applicable both to more advanced tokamak approaches and to other confinement concepts.

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References

1. "Report of the Fusion Revision Panel" (President's Committee of Advisors on Science and Technology, Washington, DC, July 1995).

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Risk Analysis

Richard Kerr's News & Comment article "A new way to ask the experts: Rating radioactive waste risks" (8 Nov., p. 913), describes recently completed expert elicitation on "Probabilistic volcanic hazard analysis for Yucca Mountain, Nevada" prepared for the Department of Energy (DOE). This study constitutes an important step in assembling the technical basis for evaluating safety at the proposed repository site.

In the highly complex repository program, several years may pass between the completion of an expert elicitation and its application in licensing and other decision-making; during that time, new data and information may become available that should be evaluated to determine whether the results of a past elicitation warrant updating. For example, recent work (*1*) that accounts explicitly for structural control of basaltic volcanism in the Yucca Mountain region indicates the probability of volcanic eruptions at the proposed site in the next 10^4 years to be 10^{-3} to 10^{-4}, which differs from the central tendencies of the DOE-sponsored expert elicitation, but overlaps the range of uncertainty.

Kerr states, "Ironically, these numbers match the only other numerical analyses of the problem, made as early as 15 years ago before recent arguments flared up."