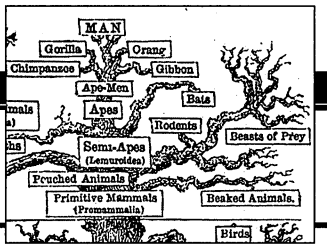


Theoretically, WARF, which owns the WiCell patents, could try to prevent people from buying similar cells from, say, Sweden or India, because the Wisconsin patents cover both the substance of the cells and the method for deriving them. But WiCell says it will not object to the use of other embryonic stem cell lines as long as the other providers' conditions are generous, too.

Thompson has promised that by next week, NIH will post on the Web a detailed registry describing the 64 stem cell lines that qualify for federally supported research.

–CONSTANCE HOLDEN

NATIONAL CANCER INSTITUTE

Klausner Quits NCI to Head New Institute

Richard Klausner, director of the National Cancer Institute (NCI), announced this week that he has resigned, effective at the end of the month. He will become the first director of a new philanthropic outfit in Washington, D.C., the Case Institute of Health Science and Technology, established with $100 million in support from America Online founder Steve Case and his wife, Jean Case. "One of the great things" about the new job, Klausner said, is that he will remain close to NCI and continue to run an intramural lab there. The Case Institute, according to Klausner, will invest in a spectrum of health projects ranging from developing tools for molecular biology to bioinformatics and even methods of improving water quality in the developing world.

Klausner's departure had been rumored for months, although he denied as recently as 3 weeks ago that he was leaving (*Science*, 31 August, p. 1569). In an interview the day before he announced his departure at a meeting of the National Cancer Advisory Board (NCAB), Klausner denied any connection between his move and a clampdown on NCI management by the Department of Health and Human Services, including revocation of large salary increases he had approved for NCI's top administrative officer and others. Reports suggesting he is leaving as a result, Klausner said, are "absolutely false" and "made up of whole cloth." Far from welcoming his departure, Klausner said, the administration recently urged him to stay and head the National Institutes of Health (NIH).

New foundation. After 22 years at NIH, Klausner is moving on.

CREDITS: (TOP TO BOTTOM) ROGER RESSMEYER/CORBIS; SAM KITTNER

Klausner, who has been at NIH for 22 years, took charge of NCI in 1995. He made policy changes designed to make the administration more flexible and promote a molecular understanding of cancer.

Biologist Phillip Sharp of the Massachusetts Institute of Technology, a member of NCAB, said Klausner made NCI into "an open and forward-looking organization." At the NCAB meeting, Sharp praised Klausner for his leadership and "putting cancer research at the cutting edge of science and technology." The administration has not yet named an acting NCI director.

–ELIOT MARSHALL

With reporting by Jocelyn Kaiser.

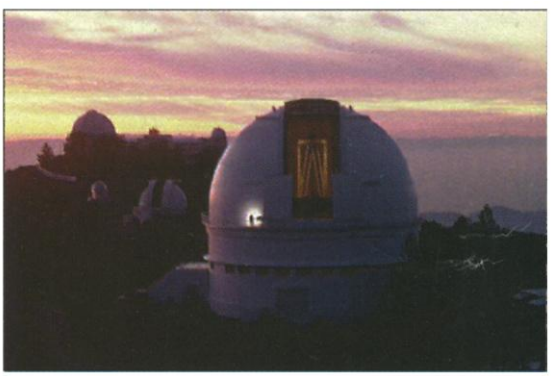
ASTRONOMY

Report Finds Fault With NSF Oversight

A mixture of relief, praise, and criticism greeted the publication last week of a much-anticipated report* on support for astronomy in the United States. As *Science* reported 2 weeks ago (31 August, p. 1566), a panel of the National Academy of Sciences argued strongly against merging the astronomy programs of NASA and the National Science Foundation (NSF)—a possibility the White House had asked the academy to consider. But the panel has stirred up debate with recommendations to improve coordination of federal astronomy programs, while highlighting flaws in NSF support for the ground-based portion of the discipline.

The relief came from the panel's rejection of the idea of wholesale restructuring, on the grounds that multiple funding sources strengthen the field. But the panel noted that the growing influence of NASA, the interdependence between space- and ground-based telescopes, and the increasing role of state and private funds and facilities require "systematic, comprehensive, and coordinated planning." According to the panel, chaired by former aerospace executive Norm Augustine, the planning should be carried out by a board representing several federal agencies and led by someone of the White House's choosing. The report also urges NSF to set up its own astronomy advisory panel and to build closer ties to nonfederal players.

No one disputes the need for greater coordination of the field. But another advisory body at NSF isn't practical, says Robert Eisenstein, chief of NSF's math and physical sciences directorate. And, he adds, "if we do it for astronomy, there are 40 other directorates that will say, 'What about us?' " Joseph Miller, director of the University of California Observatories/Lick Observatory in Santa Cruz, likes the idea of more community input at NSF. But he's troubled by the prospect of an interagency body setting priorities for the bulk of the country's astronomy portfolio. "We fear this could turn into some top-down monolithic program" that leaves little room for independent voices, says Miller, whose facility is funded by the state and by private foundations.



Clearer vision. Report says that greater cooperation will help private facilities such as the UC Observatories/Lick Observatory.

Apart from better coordination, most of the recommendations focus on the need to improve NSF's management of U.S. astronomy. The agency has lagged in supporting new instruments and allocating research grants as ground-based optical and infrared astronomy facilities have proliferated, the report notes. The Augustine panel suggests that NSF come up with its own strategic plan, including timelines and objectives, an open bidding process for all new facilities, and a more comprehensive accounting system for each project. It also suggests that NSF could learn from media-savvy NASA about how to publicize its scientific discoveries.

* nap.edu/catalog/10190.html?onpi_topnews090501

Eisenstein acknowledges that tight funding and a focus on large facilities have resulted in "a big squeeze on grants." But he says that accepting unsolicited proposals from academics for new facilities, rather than holding open competitions, has served astronomy well by encouraging creative ideas.

However, both Eisenstein and Miller agree that the academy report could be a boon to a long-discussed proposal for NSF to pay for additional instrumentation at private observatories in exchange for blocks of time on those telescopes, which NSF would then dole out to researchers. "We need to start with practical things, and I have high hopes for this," says Miller. Eisenstein says he hopes to find enough money in NSF's 2002 budget, now under review by Congress, to begin funding the exchange program, assuming that both sides can agree on how to structure the arrangement. "The burden of proof is on us—with the full cooperation of the community—to figure out a way to implement this [program]," says Eisenstein.

Miller and a group of directors of private observatories say that such an agreement would be a welcome sign that NSF is listening to them. And they hope that the Augustine report will foster a new era of greater cooperation. "At least this gives us a mandate to make the best use of funds in a coordinated way," says Paul Goldsmith, director of the National Astronomy and Ionosphere Center in Arecibo, Puerto Rico.

–ANDREW LAWLER

GENOMICS

Painting a Picture of Genome Evolution

Normally, we associate evolution with organisms growing more complex as they acquire new genes over time. But as a new analysis of the genome sequences of two bacteria shows, genes can be lost as well as gained during evolution. Even more intriguingly, the work provides snapshots capturing gene decay in the act and thus illuminates the actual genomic changes that occurred over tens of millions of years of evolution.

The research, which is described on page 2093 by microbiologist Didier Raoult of the Marseilles School of Medicine in southern France and his colleagues, focuses on two pathogenic bacteria: *Rickettsia conorii*, the culprit in Mediterranean spotted fever, and *R. prowazekii*, which causes typhus. These organisms diverged from a common ancestor 40 million to 80 million years ago, and evidence of accumulated mutations in a gene shared by the two indicates that *R. prowazekii* is evolving more rapidly. To explore how the two grew apart, the Raoult team sequenced the complete 1.3-billion-base-pair genome sequence of *R. conorii* and then compared it to *R. prowazekii*'s genome sequence, which was determined 3 years ago by Charles Kurland of the University of Uppsala in Sweden and his colleagues.

The two *Rickettsia* are good subjects for this analysis partly because both are obligate intracellular parasites, which means they can survive only in the cells of their insect vectors or in the cells of animals they infect, such as humans. Thus, they rarely encounter other species with which they can exchange genetic material, making it easier to trace how their individual genomes change over time.

Evolution clue. The newly sequenced genome of *Rickettsia conorii*, shown here inside a host cell, is providing insights into evolution.

Scientists have long predicted that, for a minute bacterium trapped in an animal's cell, shrinking the genome can preserve energy and improve efficiency. The new analysis by the Raoult team gives a stamp of approval to this theory. It shows that *R. prowazekii*'s genome is smaller overall—1.1 billion bases compared to its cousin's 1.3 billion. It also has one-tenth as much repeated DNA and far fewer active genes; whereas *R. conorii* has 1374 such genes, *R. prowazekii* has only 834.

What's more, remnants of nearly half the genes that no longer function in *R. prowazekii* remain in its genome. The arrangement of this "junk" DNA even mirrors the configuration of the active genes in *R. conorii*. "It was like having one of the two being the ancestor of the other one and then seeing what has happened during all these years," says Raoult.

"This [sequence] is telling us something about evolution that maybe we already should have known," says David Walker, a pathologist at the University of Texas Medical Branch in Galveston, referring to the fact that bacterial genes decay. Because remnants of many of the genes lost by *R. prowazekii* stay behind in the pathogen's genome, he adds, the new sequence could shed light on why genes degrade and how their functions change as they do.

ScienceScope

Strength in Numbers Biomedical researchers will now have to demonstrate that they—and not an industry or government funder—control data from a study in order to get the results published in some of the world's most prominent medical journals.

The editors of 11 major journals this week issued a joint vow to reject studies in which the sponsor was allowed to manipulate or withhold results. Researchers say that the move will help discourage drug companies from trying to tweak or cover up results that don't support their financial interests.

The journals will now "routinely require authors to disclose details of their own and the sponsor's role in the study." The guidelines do allow sponsors to ask for time—30 to 60 days—to review a manuscript before it is submitted. Signers included the editors of *The New England Journal of Medicine*, *The Lancet*, *The Journal of the American Medical Association*, and leading journals in Denmark, Canada, Australia, the Netherlands, and New Zealand.

The Washington, D.C.–based Pharmaceutical Research and Manufacturers of America endorsed the move. Sheldon Krimsky, a public health professor at Tufts University in Medford, Massachusetts, who has sounded the alarm about conflicts of interest in science, calls it "a bold step forward by a small but important group of journals."

Going Slow A panel asked to plot the future of science at the Smithsonian Institution met last week for the first time—and speed was not on the agenda.

The 18-member commission was appointed in the wake of Smithsonian Secretary Lawrence Small's controversial reorganization proposals made earlier this year (*Science*, 20 July, p. 408). But the panel's report may take a year or more to complete. "Given the importance and enormity of the task before us, we will take as long as it takes to do it right," says chair Jeremy Sabloff, director of the University of Pennsylvania Museum in Philadelphia.

The panel has already received a proposal from an ad hoc group of seven scientists at the National Museum of Natural History to divide the Smithsonian into three research institutes while keeping close ties between research and public programs. Smithsonian officials also submitted charts outlining their own reorganization proposals.

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