still has substantial stock in CMC and maintains that he is considering suing both CMC and Caltech.

To date, a few aerospace firms have paid the $40,000 price for the program that CMC is charging commercial users. And Caltech has let a couple of universities use it. But the program is not being aggressively promoted, nor is it undergoing the development it needs to make it valuable to university researchers.

Barisch remarks, "The probability that the program evolves in a healthy way so that it is useful for theoretical physics problems—I don't think it will. There is no more effort at Caltech. I and others have washed our hands of it." One physicist says, "The program has an enormous amount of potential. If it can be made bug-free and distributed it can be enormously helpful. But the program can't really be polished and nurtured; it can't flourish or grow in this environment."

What would have happened if Wolfram had been at another university when he developed the computer program? At Stanford, says Patricia Devaney, associate dean of graduate studies and research, the current policy on computer software copyrights is that they must be assigned to the university. But, she says, "we are in the process of revising our policy." Stanford plans to let faculty members who design computer programs keep the copyright, thus making its policy on software more like its patent policy. Devaney explains that the revised policy says that "title does not have to vest in the university simply because the inventor used considerable university resources." This new policy, however, is still in draft form and has not been put into effect. Stanford faculty are allowed to invest in corporations, and to consult one day a week. There is no restriction on the nature of their involvement so long as it does not conflict with their obligations to Stanford.

At the Massachusetts Institute of Technology, says Kenneth Smith, the associate provost and vice president for research, the university claims the copyright on software but shares the royalties with the inventors. The royalties are shared on a sliding scale, depending on how much money is involved, but most of the money goes to MIT. Faculty at MIT may be involved with outside corporations as long as they disclose their activities and as long as their primary loyalty is to MIT.

Carnegie-Mellon University, like Stanford, is in the process of developing a new policy on intellectual property. There is "a lot of confusion" about the current policy, says provost Daniel Berg, because decisions are made on a case-by-case basis. According to Carnegie-Mellon's proposed new policy, the copyright for computer programs would belong to the developers unless considerable university resources were used or unless the programs were developed under a contract that specifies that the copyright belongs to the contracting agency. If considerable university resources are used and the university claims the copyright, it will give 75 percent of the royalties to the inventors.

Faculty at Carnegie-Mellon are encouraged to start outside companies. "We have given rights to software and have given loans for equipment," says Berg. But if faculty members become involved in starting companies, they are asked to take a leave of absence. "At most, they can take 2 years leave. Then they have to decide whether they are faculty members or officers in a company," Berg says. He notes that individual cases often are not clear-cut and that different universities have quite different opinions on the issues. "In a sense we're developing a common law here," he says.

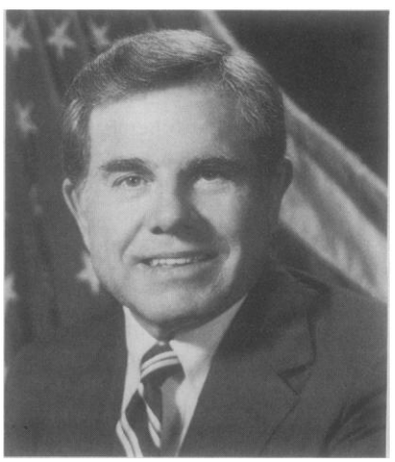
Compared to other universities, Caltech may seem a bit restrictive. Provost Vogt explains, "We have certain ideals here—certain goals. Faculty should serve education and research. Just as monks give up certain privileges, our faculty give up the privilege to be involved in full-time commercial ventures." For those who feel it necessary to participate in business ventures Vogt advises, "There are many splendid places that allow these outside activities. They should go there." President Goldberger says he shares Vogt's views.

Vogt says that Caltech faculty should not have to see written regulations on the institution's ethics. "I don't think you ever have to explain it to someone. You absorb it."

To Vogt, the real tragedy of the Stephen Wolfram affair is that neither he nor the other Caltech administrators even could communicate their vision of Caltech to Wolfram. "I think Stephen is a brilliant young man whom Caltech has nurtured along," Vogt says. "Until this commercialism took place, Caltech was an *ideal* place for Stephen. He is exactly the kind of character that we want to take care of. The fact that Stephen ultimately left and became very embittered—there is no doubt in my mind that this is detrimental to his research. All other things pale in comparison. This man should spend his time in scientific dialogue. It's very sad."—GINA KOLATA

Commerce Deputy Resigns Over Satellite Sale

It has always seemed curious: in April 1982 the Cabinet Council on Commerce and Trade recommended against selling the government's weather satellites to a private operator, and then in December 1982—despite innumerable studies that said the transfer would be a bad idea—the council reversed itself without explanation. (*Science*, 11 February, p. 752)



Guy Fiske

The controversy could sink the proposal

Some light was thrown on the matter in hearings before the House science and technology subcommittees on 14 April, when Commerce Secretary Malcolm Baldrige admitted that his second-in-command, Guy W. Fiske, had been entertaining a job offer from the Communications Satellite Corporation (COMSAT) at the same time he was overseeing the department's debate on the transfer. COMSAT originated the idea of the weather satellite transfer in 1981, and has been lobbying hard for it ever since.

Fiske removed himself from any further role in the satellite decision at that time; last week he resigned, effective 14 May, thus forestalling a congressional conflict-of-interest investigation. However, the Justice Department has now launched a criminal investigation of the matter.

Fiske admits to being unwise about "the potential for the appearance of conflict," but denies that his contact with COMSAT had any influence on

the weather satellite decision. And indeed, Baldrige has testified that Fiske had no policy-making authority in the matter.

Be that as it may, the Fiske revelation has definitely soured the weather satellite proposal in Congress. "It's not unimportant," says a key House staffer. "It has focused a lot of people's attention on the proposal. Congress, the public, the press are going to be very skeptical now."

"It's been clear to us for many months that the process that went on in the Administration over the last year was simply not rational," he adds. "There's a lot of backfilling going on now to make it look rational. When you look at the documents and how they have been edited, it seems that there was an effort to ignore or stifle contrary recommendations."

With the Fiske controversy now in the hands of the Justice Department, Representatives Harold Volkmer (D–Missouri) and James H. Scheuer (D–New York) are planning to move into substantive hearings on the satellite transfer in mid-June, with the emphasis actually on a parallel issue that has been obscured by the weather satellite controversy: the proposed sale of Landsat.—**M. Mitchell Waldrop**

The Party Is Over for French Science

The bubble has burst—officially—for French science. The first 2 years in power of the socialist government of President François Mitterrand saw an unprecedented growth in the science budget, largely due to the efforts of Mitterrand's first research minister, Jean-Pierre Chevènement, who resigned over political disagreements with the government's economic policy in February. Now it looks as if, falling back in line with other European nations, the growth in the research budget for 1983 will be merely sufficient to keep pace with inflation.

As part of a general package of austerity measures introduced to meet the nation's deteriorating economic situation, Chevènement's successor as Minister of Industry and Research, Laurent Fabius, announced last week a reduction of 12.5 percent in that part of the previously announced budget of the Centre National de la Recherche Scientifique (CNRS) which is spent directly on research grants and backup support for CNRS laboratories and those it finances in universities.

CNRS will not cut back on commitments to increase the number of scientists that it employs, planned to grow this year by 3.4 percent to a figure just under 10,000. Nor will it cut its support for international projects, a move that would have been politically embarrassing at a time when France is trying to persuade its international partners at next week's Williamsburg economic summit to increase their collaboration on joint research.

The scientific director in each department of CNRS, however, will have to work out how to distribute the cuts in his or her anticipated budget. In particular, each is being asked to ensure that an equilibrium is maintained between, on the one hand, the continuation of previous efforts to replace out-of-date equipment in both CNRS and university laboratories and, on the other hand, efforts to stimulate new research considered important for the economic growth of France. Their recommendations will be passed to CNRS president Pierre Papon within the next few weeks.

The news could have been worse. Earlier this year, laboratories were told that they were authorized to spend up to 60 percent of their previously agreed research budgets for 1983—a move which lead to the rumor (apparently fanned by the conservative press) that the remaining 40 percent would be suppressed. Last week's announcement means that research budgets will, in current francs, be about 7.5 percent higher than in 1983.

The word from inside the Ministry is that, despite the new austerity, commitment to a growing science budget remains strong. And those who point to the government's previous promise, signed into law by President Mitterrand last summer, to increase research spending from 1.8 to 2.5 percent of the gross national product by 1985, are referred to the small print where it adds that this only applies if the economy reaches a certain level of growth. Currently growth is well behind target; hence, it is argued, the commitment is no longer binding.

—**David Dickson**

Gore Proposes Genetic Engineering Commission

Legislation creating a presidential commission to monitor genetic engineering that has potential human application was recently introduced by Representative Albert Gore, Jr. (D–Tenn.).

The proposed commission would be strictly advisory, not regulatory as some in the biotechnology community had feared. According to Gore's proposal, the group would review developments in the field and examine related medical, legal, ethical, and social issues.

The legislation is in the form of an amendment to the reauthorization bill for the National Institutes of Health, which was approved by the House Committee on Energy and Commerce on 10 May. No Senate counterpart to Gore's amendment has so far been proposed.

Gore's proposal stems from hearings held last November by the House science investigations and oversight subcommittee, which Gore chairs. The hearings focused on a report on gene splicing and its implications published by the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research. The bioethics commission, which itself went out of business on 31 March, urged the establishment of a panel to oversee genetic engineering, and Gore announced his intention to do just that. But he left open the possibility that the panel might have regulatory power, a prospect that made many scientists and biotechnology company executives uneasy.

According to his proposal, the commission would comprise 15 members, including six scientists; six people who are experts in law, theology, ethics, or the social sciences; and three laymen. The amendment says that three of six scientists would be recommended by the president of the National Academy of Sciences and three by the director of the National Institutes of Health. The appointments would all be made by the President.

The legislation authorizes expenditures of $1.5 million a year over 3 years for the work of the commission.—**Marjorie Sun**