

## French Genome Project on Track at Last

PARIS—If genome research were a 100-meter sprint, the French competitor would have been knocked out in the qualifying heats. Nearly 4 years ago, President François Mitterrand declared that he wanted France to launch its own human genome project, comparable to the one then starting up in the United States. Two years later, research minister Hubert Curien announced that a new agency would soon be formed to run a multimillion-dollar effort. But that agency still doesn't exist. And while the French government has provided some money for genome research, it has been much less than expected, largely because of the lack of a mechanism to dispense the funds.

Now, the French genome project is finally breaking from the starting block. This summer, yeast geneticist Piotr Slonimski, who took over as project head in February after retiring as director of the Center for Molecular Genetics at Gif-sur-Yvette, awarded \$13.3 million to French genome researchers, instantly shooting France to near the lead among the world genome projects, in cash terms at least. And research ministry officials are optimistic that a committee set up by Slonimski to award the grants will be transformed into a fully independent agency by early 1993.

The project he heads will play to the strengths of the French genome community, Slonimski says, and will complement efforts elsewhere. So far, human genome mapping has dominated, consuming more than one-third of the 1992 budget. The project also contains money for genome databases, for working out the function of sequenced genes, and for a small cDNA sequencing program. But the main change from the original blueprint for the French project that was introduced by Slonimski is a stronger emphasis on model organisms. Indeed, Slonimski awarded almost 20% of his 1992 budget to gene sequencing projects in the mouse, fruit fly, yeast, the bacterium *Bacillus subtilis*, and the plant *Arabidopsis*.

Unlike the U.S. program, however, the French project contains no plan to set up new genome centers. That's largely because France already has two highly successful privately run centers—the Centre d'Etude du Polymorphisme Humain (CEPH), the Paris lab founded by Nobel Prize-winning immunologist Jean Dausset, and its daughter lab, Généthon. Indeed, while the French government has been falling over its own feet in the international genome race, CEPH and Généthon have become world-leading centers for human genetic mapping, thanks to major financial support from the French Muscular Dystrophy Association (*Science*, 24 April, p.463).

CEPH and Généthon's successes clearly show that the French are capable of mounting a world-class genome effort. So why then did the French government project suffer, in Slonimski's words, such a "difficult gestation?" The main problem has been an impasse over the creation of the new body to run the project. Research minister Curien's idea was that the genome agency should be given its budget in 3-year chunks and manage its affairs with minimal government interference. But various existing government agencies immediately began scrapping over who should have the greatest say in setting up the new body.

In spite of their achievements, CEPH and Généthon also proved a stumbling block for the government project. CEPH was originally funded entirely from private sources. But in 1989, when the French government started making a \$4 million-a-year contribution to CEPH while the official genome project still languished, the seeds of jealousy were sown. This intensified when

CEPH head Daniel Cohen made it obvious that he wanted more money from the government genome project to help fund the huge mapping effort he was planning at Généthon—including projects that would require more than 10 times the sum typically allocated in a standard genetics grant. "The past 3 years have been horrible," says Cohen. Few researchers came out and attacked Généthon openly, he says, but there's been a general atmosphere of negative whispering about the center that permeated even to high-level agency committees.

The previous project head, molecular biologist Jacques Hanoune, became terminally mired in all the disputes, says Claude Paoletti, head of life sciences at the largest French government research agency, the Centre National de la Recherche Scientifique. But after the resignation of Hanoune, who now refuses to give interviews about the genome project, Slonimski put an end to the deadlock over the new genome agency by simply sidestepping the issue. As Paoletti describes it, Slonimski marched in, "got the money, put it in his pocket," and then gathered a review committee around him to start awarding grants, without waiting for the agency to be formed.

Other scientists might not have gotten away with such audacity, but Slonimski has united all the warring parties behind him. The reason? Rather like James Watson, the recently departed head of the U.S. genome project, Slonimski has a star status within the French genetics community—and, as one of the coordinators of the successful European Community (EC) project for sequencing the yeast genome (*Science*, 8 May, p.730), he's a proven manager. "We follow what he says," says Paoletti.

And there's another reason why Slonimski has had an easier ride than Hanoune: The French genetics community has finally accepted that CEPH and Généthon must be strongly involved in their government's genome project, removing the other main obstacle to progress. In the end, they had little choice. A string of recent undisputed scientific successes—culminating in the publication of a complete map of chromosome 21 in this week's *Nature* (also see p. 28)—have brought worldwide acclaim.

Indeed, although CEPH and Généthon this year consumed more than 40% of Slonimski's budget, there's been little protest. But unfortunately, the present lull may only be temporary. The problem? The French Muscular Dystrophy Association wants to spend more on therapeutic research over the next few years, which means reducing its \$16.9 million annual contribution to Généthon. That's a major headache for Cohen, who'd like Généthon to move into large-scale human gene sequencing—but also for Slonimski, who could be forced to divert money from elsewhere in the genome project to keep the center alive. "I think that the future for Généthon is to be international," says Slonimski, looking outside France for a solution to the problem.

Cohen agrees, and intends to lobby European Community (EC) research director-general Paolo Fasella when they next meet, at the *Science*-sponsored genome meeting in Nice later this month. With the EC preoccupied with rescuing its rapidly unraveling plans for European monetary union, however, now isn't the best time to ask Brussels for money. But few researchers who have witnessed Cohen's tenacity in winning round a skeptical French genetics community to the merits of Généthon will bet against him succeeding.

—Peter Aldhous

### New genome project head Piotr Slonimski united all the warring parties behind him.