

## SCIENCE INTERVIEW

# Claude Allègre: Back to the Wall, But Still Fighting

France's research minister came to his job with grand plans to bring more fluidity to the nation's privileged research system. Although he now faces fierce resistance, he is determined to tough it out

**PARIS**—When geochemist Claude Allègre was appointed France's minister of national education, research, and technology in June 1997, French scientists thought they at long last had a colleague in their corner. Now many researchers are not so sure. Allègre has challenged many of the sacred cows of the French research system, including the



"researcher-for-life" status of scientists employed by large public research organizations such as the Centre National de la Recherche Scientifique (CNRS). The minister's insistence that these civil service researchers develop closer ties with universities and industry has met fierce resistance, including a historic mass meeting of CNRS researchers last December (*Science*, 18 December 1998, p. 2162). Moreover, Allègre has been fighting on two fronts, as thousands of teachers have taken to the streets in recent weeks to protest his attempts to reform the nation's secondary schools. Some teachers' union leaders have even called for Allègre's resignation.

In an interview in his Paris office, Allègre outlines his rationale for the changes he wants to see in French research, and underscores his determination to push ahead with the reform program. An edited transcript follows.

**Q:** You are obviously a controversial person in France at the moment. Are you surprised at this strong reaction to your efforts to reform the nation's education and research establishments?

**A:** No, I am not surprised at all. There is resistance from some of the teachers' unions but, at the same time, the parents and stu-

dents are completely with me. It is very difficult to reform education in this country, but I have the confidence of the government, so I am not very troubled about the resistance.

**Q:** Can you imagine any circumstances in which you would resign?

**A:** No. We are a democratic country, the government is not appointed by the unions. The pressure you are referring to is greatly amplified by the press, but it is not very strong on the street.

**Q:** At your request, Prime Minister Lionel Jospin recently appointed two Socialist parliamentary deputies to conduct an inquiry into research and the universities. What is the purpose of this inquiry?

**A:** The reasons are simple. I want to bring the research organizations into closer contact with the universities, and I want researchers to be mobile and not remain full-time researchers for life. That has met great resistance. So I have asked the deputies to study it. They have 6 months to do it. I do not want to negotiate at length with the CNRS about it.

**Q:** There has been some speculation in the press that the deputies might conduct the national debate on the future of French research that many scientists have called for, but which up until now you have opposed.

**A:** They can do that if they want. This is clearly stated in their assignment letter. But I am not for a national debate on everything. It should be centered on bringing together the universities and research organizations, and increasing mobility for researchers. I am not opposed to a debate on that, it doesn't bother me. The reason I do not want a national debate is simple, we have already had two [in the 1980s and 1990s], and at the end nothing happened. We debate a lot and then nothing changes. The reforms will come, I have no worries about that. But making re-

forms is difficult.

**Q:** You have used the phrase "revolutionaries of the status quo" to characterize some researchers who have actively opposed your reforms. What do you think is behind this resistance? Are the researchers sincere about wanting change but not in agreement on the details, or do you think there is a real resistance to change?

**A:** Oh yes, there is a real resistance. France, and also Italy, are the only countries to have this kind of system, with full-time researchers for life [civil servant scientists]. That does not exist in the United Kingdom, nor in Germany, nor in the United States or Canada. Our researchers think it is just fine. They don't want to have to teach. They don't want to have to go into industry. There is a real fundamental resistance there. Other [ministers] have tried before me, and they have never really succeeded.

My goal is not to squelch the researchers. I find that our system of having full-time permanent researchers for a period of their lives is a good one. In the United States this does not exist, but I am not sure that the American system is better, because the researchers are always under a great deal of pressure. For part of one's life, it is a good thing to do research without being under pressure. But there are very few people who can do full-time research all their lives and still be good at it.



**In the hot seat.** In this Jean Plantu cartoon from the 19 February *Le Monde*, researchers oppose reform and teachers want it, but both demand "Allègre resign!"

**Q:** So you want some of the older researchers to step aside in favor of the younger ones?

**A:** I want experienced researchers to think about continuing their careers as both researchers and professors. There are two issues with respect to young researchers. The

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first issue is to hire them. The second, after they are hired, is to give them the freedom to be scientifically autonomous. In the United States, when you are an assistant professor, you write your own grant proposals. In France, you are in a laboratory, there is a director, and the director is in charge of everything. In the United States that situation exists in certain sectors, for example high-energy physics or certain sectors of biology, but it is rare. I have asked each [French] research organization to create a program for young researchers, and they all have done it. I am also creating a national program for young scientists, a competition based on grant proposals, and the researchers who win this competition will have the right to one or two postdocs and access to equipment. This will favor the blossoming of young research teams. I want to rejuvenate French research.

**Q:** *If money were given directly to young researchers, that would be a radical reform in France. Do you think these measures could finally break the "mandarin system" that you and others have said rules French research?*

**A:** Yes. No one dares to openly oppose these measures, but in fact there is a great deal of resistance.

**Q:** *Resistance from directors of laboratories, of institutes ...?*

**A:** Yes, from the directors, but not only the directors. Also from scientists who do not do much research anymore themselves, but who need young researchers to do it for them.

**Q:** *Many French researchers say "yes, we are for reforms." But there is a perpetual complaint about the lack of adequate funds to keep laboratories going, and a great fear that if researchers must find more and more of their funds from contracts with industry, then basic research is in danger.*

**A:** No, fundamental research is the first priority for us. And we have asked the research organizations to increase the [proportion of their budgets used] for running the laboratories. All labs should receive a budget increase of 10% by the year 2000. But the CNRS has allowed itself to fall into a spiral where 80% of its budget is taken up by salaries. The CEA [Atomic Energy Commission] was in the same situation 10 years ago, but the CEA has made a choice, it has reduced its personnel.

**Q:** *Scientific personnel?*

**A:** Yes, to give more funding to the laboratories. The CNRS has not had the courage to do that. [The ministry later clarified that it is not its policy to encourage the CNRS to reduce researcher numbers.]

**Q:** *You have said that you want to bring*

*the research organizations and the universities together. But 80% to 90% of CNRS laboratories are already located on university campuses and many graduate students do their theses in CNRS labs. What specifically do you want, for example, in the case of labs that are already at the universities?*

**A:** For those labs already at the universities, nothing much will change. But I want



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more CNRS researchers to become professors, and I want a certain number of professors to spend their sabbatical years in the CNRS. I want the collaboration between the two sectors to be more intimate. They are still too separate for my taste.

**Q:** *At the CNRS mass meeting last December, chemist Henri-Edouard Audier said that if the teaching hours of university instructors were cut in half, all the problems of mobility between the CNRS and the universities would disappear. How do you respond?*

**A:** We are trying to lighten their load, it is a real problem. Especially for the *maîtres de conférences* [assistant professors] who do research. We are studying that, but it is not easy.

**Q:** *You have recently talked about giving the universities a percentage of the public research budget, an overhead, to incite them to recruit the best research teams to their campuses, something that is not done now. But since virtually all the universities belong to*

*the state, can they compete with each other for the best scientists, as American universities do, for example?*

**A:** This happens even now in France. A university can offer a post of professor to someone who is a *maître de conférences* elsewhere. So an attractive promotion is a possibility. What is different is that American culture is a culture of mobility and taking risks, and French culture is not. We are not the descendants of those who crossed the Atlantic, we are the descendants of the ones who stayed behind. American culture is to go West in covered wagons, to push back the frontier. Our culture is to construct a house as quickly as possible ... and never a wooden house like in America, but in stone. It's a static symbol. The American builds his house out of wood because he knows he is not going to live in it his whole life.

**Q:** *You have earned a reputation for speaking very frankly, and some have even called you a provocateur. Are you doing it deliberately to make things move?*

**A:** Yes. My answer is yes.

**Q:** *That is your strategy?*

**A:** Yes, because we have an enormous resistance to change. Many of my predecessors have taken a very consensual approach, and in the end they have not succeeded in changing things. I am trying a different way. In the scientific community, the exchanges are very frank, even when they are courteous they are still very frank. But when you are a minister, everything you say is amplified in the media and takes on a terrible weight. But I am trying to make things move. Take the CNRS. People say "yes, we agree to change, but [we don't like your] methods." No, those are the people who do not want to move. They have employed that [tactic] in the past. They organize colloquia, in which CNRS people are the most active, but in the end everyone moves except the CNRS.

I do not want to destroy the CNRS. I don't want to transform it. I simply want to give it a little more fluidity, to collaborate with industry on one hand and the universities on the other. I want to promote what already exists in the United States and in England, centers where there is teaching, there is research, but there are also "incubators" of innovative industries developing. You only have to look at MIT, Stanford, University of Texas, University of Maryland, Virginia. At one time a university meant teaching, then teaching and research, and today it is teaching, research, and creation of new businesses. The university is becoming the spearhead of the economy. This change is happening very quickly in America. It is beginning in Europe. The British are better placed than us. We are behind and must now catch up.

**—MICHAEL BALTER**