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## Long Road to Reform in France

OVER THE PAST 2 YEARS, SEVERAL CHANGES HAVE OCCURRED IN THE FRENCH SYSTEM OF scientific research and higher education, and more are on the way. As the country struggles to find ways of modernizing a structure that has been forged over two centuries, the intention to improve things is a good sign.

Change is needed because the French system is mired in numerous idiosyncrasies, including a dichotomy between public universities and specialized public institutions of higher education—the *grandes écoles*. The latter are selective but mainly emphasize undergraduate education. The other major problem is a research workforce fragmented between universities and government agencies such as the Centre National de la Recherche Scientifique (CNRS) for basic sciences and the French National Institute for Health and Medical Research (INSERM). This structure inhibits the flow of professional talent between these institutions.

In August 2007, the French government proposed giving universities more autonomy and a stronger role in driving research. It is too early to judge whether universities will use their increased, but still limited, freedom effectively. However, several drawbacks remain. Students, technicians, and professors will continue to elect university presidents. Their representatives, often chosen by politicized unions, will retain significant influence in a matter for which competence should be the only criterion. The procedure for hiring professors has also resulted in severe local “inbreeding.” Will the imminent new powers given to university presidents for appointing ad hoc recruitment committees with 50% external members improve the situation? Furthermore, universities will still not be allowed to select students on the basis of their abilities but remain obligated to accept all applicants. In fields such as mathematics, physics, and chemistry, universities suffer from competition with the *grandes écoles* for attracting the best students, and this will not change. Yet, despite the selectivity of the *grandes écoles*, their students are rarely exposed to research and have little incentive to complete graduate education. In 2007, only 6% of the 42,000 students of the science and engineering *grandes écoles* advanced into Ph.D. programs.

Although the successes of French research have largely relied on partnerships between the universities and government agencies, some political forces want to abolish permanent non-teaching research positions. But the decline of these positions within the agencies would be the demise of French research if it happens before the new organization of universities has demonstrated its ability to conduct research.

The Agence Nationale de la Recherche (ANR), established in 2005, provides research grants on a competitive basis (awarding €825 million in 2007) and provides career-development opportunities to young researchers. However, more than 70% goes to programs with targeted objectives defined a priori by the government. The 30% devoted to broader, excellence-based programs is too small. In addition, the ANR grants support very limited overhead costs. It is shortsighted not to acknowledge the important role of the infrastructure in which individual researchers operate.

The teaching load of newly recruited professors has increased by 50% since 1983, severely impairing their research capacities. The CNRS has proposed creating 5-year chair positions that have no teaching duties for assistant professors, giving them a chance to remain active in research. This is potentially a good idea whose generalization would be welcome, but only if the hiring procedures at universities improve. The meaning of the transformation of the CNRS into a federation of institutes, announced last month by Science Minister Valerie Pécresse, is still obscure. However, most scientists believe that the badly needed reinvigoration of the universities cannot be achieved simply by jeopardizing comparatively more efficient organizations such as the CNRS.

The future of France’s research and education system ultimately depends on its ability to attract the best young minds to science and give them the appropriate means to develop their ideas. Their opportunities have improved slightly, but the end of the road is not yet in sight.

– Edouard Brézin and Antoine Triller

