

CHAPTER 13

Can the French System support competitive Research Universities?

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During this symposium, we have addressed the question of the imbalance between educational need and educational capacity. Of course, this question has been asked in France. What are the answers? Are they adequate? Are they specific to the French situation or can they be used in a wider range of countries or systems?

The purpose of this paper is mainly to ask these questions, and only to suggest answers. Although based on the French situation, they might thus have a more general outreach.

A COMPLEX HISTORY THAT GAVE BIRTH TO A SPECIFIC LANDSCAPE

This chapter does not intend to give a detailed historic perspective, but only to summarize some key points in the history of the French higher education system, because it is felt that these historical specificities are important factors for understanding the present situation. For more details on the history of the French higher education system, see Musselin, 2012.

Universities

It is a paradox that French universities are a recent creation. The first universities were created in the late Middle Ages, first in Paris and Montpellier, and then in many other cities. In this respect, French universities share the same

roots as the oldest, prestigious British, Italian and Portuguese ones, for example. But their history took a different turn when the Revolution abolished the universities in 1793, because of their analogies with professional guilds. The revolutionary intellectuals wanted to create a new higher education system more targeted towards professional needs.

If Napoleon created universities again in 1805, it was only as a kind of subsidiaries of a nationwide system. This introduced a centrally controlled organization, with one only identified local academic structure, the “*faculté*” (faculty). The local supervisor is the *recteur* (rector), a government-appointed official, who also has authority over the secondary education system (“*lycées*”). University professors might also teach in *lycées*. This system, alongside the “*grandes écoles*”, has been in place for more than 160 years, while, at the same time, universities in other countries were progressively entering into the Humboldtian concept of a research-driven institution.

Then came the big student uprising of 1968. It led to a new law that dramatically altered the old system and provided French universities with characteristics already present in other countries. The degree of strategic and financial autonomy was increased, the governance completely modified, with, instead of the appointed rector, a president and an elected council. However, if “traditional” universities were re-founded, the historical institutions were, in many instances, fractioned into several smaller universities that lost their comprehensive character.

Grandes écoles

Specialized technical military schools existed before the Revolution. The Revolution extended this system of recruitment to all technical administration, and Napoleon enforced this system of “*grandes écoles*”. The purpose was to provide highly qualified personnel to the administration, in defined fields such as: army, mines and bridges, water and forestry, agriculture, veterinary science, education etc.

This system has of course changed through the years, but remains very active. Some of these schools depend on the Minister of Higher Education, but many others on “technical ministries” (Agriculture, Culture, Defence, Equipment, Industry, Justice, Health, even the Prime Minister...) Clearly, research has not been the backbone of these establishments for more than two centuries.

Admission to these “*grandes écoles*” is by a competitive exam, supposed to provide “republican equality”, while the entrance to universities is a vested, unquestionable right if you pass the “*baccalauréat*”, the final exam in secondary schools, which is in fact considered as a university degree. For a critical and humorous look at this strange world, see Gumbel (2013).

A complex sociological and political background

G. Neave (2012) has described the dual presence of universities and “grandes écoles” as that of a “Manichean construct”, with, on one side, “a higher education dispensing rigorous technical training and not so less rigorous socialization preparation to state service” and, on the other, a university “given over to the public service of providing mass higher education”. Clearly, the system has led to the fact that France is almost the only country where the university is not the place where the economical or political elite is trained. On the contrary, when studying board members of the 40 companies that constitute the main French stock index, the “CAC 40”, 84% were graduates from grandes écoles, and just three schools — Polytechnique, ENA and HEC — accounted for 46% of the total (Bauer *et al.*, 1997).

For a detailed sociological analysis of this phenomenon, one should refer to the works of Pierre Bourdieu, who has analysed “strategies of reproduction” that agents or groups use to implement, maintain or improve their social position and especially to his book *The state nobility*, where he focuses on the grandes écoles system as one of the major elite-building systems in France (Bourdieu, 1996). As was proposed by Monique Pinçon-Charlot and Michel Pinçon, the system facilitates the transition process from “classmates” to “caste mates” (“copains de classe puis copains de caste”).

The Asterix syndrome

J.-F. Dhainaut (2008), who headed the AERES, the French national research evaluation agency, has humorously proposed that France suffers from the “Asterix syndrome” in the academic field. This “syndrome” is named after a famous comic strip character, hero of the Gallic resistance against the Roman invasion; it is characterized by the belief, held by many French, that their country needs to defend itself against the encroaching foreign (especially “anglo-saxon”) cultural influence, just as Asterix fought the Roman invaders. The term indicates an inward, backward-looking way of seeing the world and is also tied up with the French obsession with a “cultural exception”.

Dhainaut also thinks that this syndrome is worsened by a “double dichotomy”. This dichotomy concerns the missions which constitute our core academic tasks where French universities suffer from internal competition not commonly seen in other countries: 1) for education, a competition with the “grandes écoles” which still attract the best students; 2) for research, a competition with national organizations such as CNRS, which have their own policy.

Conclusion

Elitism and exclusive education tracks are present in many countries. It is beyond the scope of this paper to discuss the relative merits of mass education

vs. elite-targeted curricula. But, in most countries, the institutions that train the elite are usually universities developing a Humboldtian model, i.e. which insists on the basic importance of research in the construction of knowledge, while in France these curricula are more organized around the “selection” of brilliant young people.

This short historical summary illustrates that French governments, including in the revolutionary period, believed strongly that higher education was essential for the development of the nation, and this support is still an asset for the higher education system in this country. However Jacobinism and centralized strategies, as well as the dominance of a non-Humboldtian higher education, might be considered as detrimental for the development of world-class research universities in France. Is this a form of “Gallic syndrome”, which could lead to a loss in competitiveness, or can some of these characteristics be turned at our advantage? This paper proposes a few tracks to answer this question.

DEFAULTS AND PITFALLS IN THE FRENCH SYSTEM

Jacobinism is impairing autonomy

Autonomy is considered as one major factor of the competitiveness of research universities. However, in France, some still see autonomy as totally contradictory with the national responsibilities of the republican institution. France’s Jacobin state is based on two fundamental legal principles: vertical centrality and horizontal uniformity. Indeed, French universities already do have legal and administrative autonomy (introduced in 1970, enforced by the 1984 “Savary” law and the 2009 LRU law), but, in this country, autonomy remains a contradictory and relative notion. The strong tradition of centralized national policy is overwhelming, and much of the management is performed, or at least controlled, by central bodies.

Thus autonomous universities are still considered only as relays of national policies. They are seen more or less as monitored units, submitted to multiple and often conflicting evaluations by different bodies (Demichel, 2009).

The EUA (European University Association) has measured the autonomy of European universities in 29 countries (Estermann *et al.*, 2011). France is situated at the top of the “medium low” group of countries for organizational, financial and staffing autonomy, and in the “low” group for academic autonomy (17th in organizational autonomy, 23rd in financial, 28th in staffing, and even 29th and last place in academic autonomy!) Curiously, the low position in these rankings of French institutions is not always perceived as shameful, and has raised much less media activity (or political debate) than the rather modest ranking of French universities in highly questionable league tables such as the Shanghai Jiao Tong ranking. But this historically and politically-

determined defect in autonomy could heavily impair the development of competitive research universities in France.

Elite training excludes Humboldtian values

Curricula in the “grandes écoles” highlight a series of differences with international counterparts that can be considered as major drawbacks. I can identify at least three of these differences:

Ranking the students is still considered as a major tool, instead of achievement evaluation. Admission in these schools is already through a competitive exam leading to ranking; there are usually no interviews. The question of the abrogation of the graduation ranking at the ENA (Ecole Nationale d’Administration) (at the end of the curriculum) started a major national debate in media and in political circles, that ended up...in a status quo! This means that this ranking will still prevail over interviews and profiling of candidates when hiring them for the “top” of the French administration, i.e. the three great bodies of the State: Court of Auditors, General Inspection of Finance and the State Council.

Research was, until recently, only a secondary issue in the grandes écoles. The national certification agency for engineering schools (CTI) until recently had very negative remarks for engineering schools where the ratio of engineering graduates going on towards a PhD was “too high”. Indeed the rate of French engineers with a PhD is very low compared to other countries.

The role of high school (“lycées”): The high school system still has its roots in the Napoleonic system, which means that it was, in part, designed to funnel the best students towards the “grandes écoles”. Therefore, pedagogical and evaluation methods are culturally much closer to the grandes écoles system than to a research-driven education paradigm.

A high number of universities

The French university landscape is very composite. In 2011 there were 340 institutions supervised by 11 different ministries, plus the private sector — 13 private (religious) universities and 70 private technical schools. Thus the ministry of higher education and research supervises only about 70% of the students (Piozin, 2012). Among those there are 81 universities, 3 technical universities and 2 national polytechnic institutes.

This high number is due both to the splitting of the historical universities in 1970, but also to the more recent founding of smaller regional universities in towns where there was no academic tradition, very often as the result of the pressure of local politicians.

Although all these universities claim excellence, the lack of academic comprehensiveness and the very heterogeneous levels of achievement in research

clearly create important gaps in reputation, prestige and achievements. But, officially, all French university diplomas remain equivalent.

Specialized, disciplinary universities

The 1970 reform in universities has had many positive results. The most constructive was to introduce a new political structure that would, in theory, favour autonomy. Considering the French background, this was indeed a major improvement of this law, often named after the brilliant minister of the time, Edgar Faure. This strong incentive on autonomy is often overlooked (see above). However the major defect of this reform was to split the older universities into smaller, specialized universities; usually they were cut in two or three, for example restricted to experimental science or humanities, or law and business. This yielded universities that lacked the critical mass and transdisciplinarity that are key assets of any modern comprehensive institution.

This unjustified disciplinary specificity is not only a handicap for the students and an obstacle for research, it can also fuel a sterile and counterproductive interdisciplinary competition. For example, it leads even to the paradoxical standpoint that only universities specialized in humanities could defend this endangered section of science. A recent position paper of the League of European Universities shows precisely that the promotion of the humanities is, on the contrary, optimal in comprehensive research-intensive universities (Van den Doel *et al.*, 2012).

The university is not the main player in public research

Research in France is split between national research organisms such as CNRS or Inserm, on one hand, and the universities on the other hand. Until recently, science policy was mainly steered in these organizations' headquarters. However in recent years, the universities have constantly increased their role and visibility. Recent legal changes have sought to place the universities "at the centre of the research system". Nowadays, a majority of the research organizations' money and personnel is housed within universities. However the co-existence of differing procedures, structures or regulations makes the everyday life of the researcher rather complicated, and also blurs the visibility and the corporate image.

ADVANTAGES AND ORIGINALITIES IN THE FRENCH SYSTEM

A strong research base

When the collaboration of universities with research organizations is effective and sincere, especially through a smooth implementation of "joint laborato-

ries”, jointly supervised by both partners, this system becomes a key asset for both partners. This mechanism produces a powerful and rather flexible tool for research, including basic research budget and full-time researchers’ positions; 85% of CNRS national co-publications originate in laboratories held jointly with universities. A study by Carayol and Matt (2004) has shown that combination of full-time researchers (for example, employees of CNRS or Inserm) and teach-and-research positions (university professors) in the “right” proportion within labs (approximately an equal share) induces a high performance in terms of publications.

Invest for the future: a public endowment

The “excellence initiative”, the main action of the “investing for the future” call for projects, is aimed at the emergence of large academic centres, globally competitive on a worldwide scale. This major investment for French research and development was funnelled through direct competition between institutions, and judged by an international jury. In this respect, France is one of the few countries where science funding has seen a “cash boost” intended to stimulate long-term research efforts (Editorial, 2010).

Eight locations now share a grant of €7.7 billion — which they use in programs they specifically designed. The money is part of the €35 billion “Investments for the Future program” — also known as the Big Loan, because the money was raised on the financial markets — launched in 2010 to help spur the economy in the wake of the financial and economic crisis. It should be stressed that most of this money is allocated as capital, and the grantees can only spend the yearly interest. This new form of “public endowment” is very original, and makes the procedure quite different from the German *Exzellenzinitiative*, which uses a more classical granting procedure.

A strong incentive for site organization

Creating an avant-garde of 5 to 10 major universities able to attract the best researchers and students has been a key target of the French government’s science and higher education policy. The plan remains controversial because it puts an end to our egalitarian tradition in higher education.

Unfortunately, our government is still convinced that one of the goals of this initiative (and one of its best indicators of success) will be the presence of French universities at a very high level in university rankings such as the Shanghai Jiao Tong rankings. Because of this “ranking syndrome” that has historically plagued the French university system, attention to these league tables has been much too high in this country, where they are unfortunately perceived by the authorities as a relevant proxy for evaluating the results of their policies.

A stronger political impact

Although there is still progress to be made, in a very stiff and traditional political society, the cause for universities is now rather popular in the Parliament, ministries etc. Many former university presidents have held key advisory positions in the government or high administration. Higher education and research are now part of the debate before elections, which they were not a few years back (see, for example, Butler, 2012).

WHAT SHOULD BE DONE? — QUESTIONS TO BE ANSWERED

At this stage, are we able to answer the question in the title of this paper: “Can the French System support competitive Research Universities”? During the Glion symposium, one of our colleagues, a fine connoisseur of the French higher education system, answered to this question with a blunt, somehow provocative " No!" I proposed a more optimistic answer: "Yes, if..." Yes, French universities have assets, and they can continue to be forefront players, if, and only if, they are allowed to progress in three aspects: financial support, technical and structural support, political support.

Autonomy

Although autonomy is now a major, unquestioned condition for progress (Aghion *et al.*, 2007), French universities still have a long way to go towards autonomy. In some academic circles, the validity of this concept will trigger violent debates, some even seeing university autonomy as contradictory to individual academic freedom. The French tradition of universities as a public service (which I strongly support) is not, as some still try to demonstrate, an obstacle for this evolution. We should look for examples in Scandinavian countries where a highly dedicated public service has attained a very high degree of autonomy.

Financing

French universities, as a public service, depend, to a very wide extent, on public funds. Most of their workforce are public servants. Thus one of the questions asked during this symposium takes a great importance: is a globally competitive research-intensive university sustainable on public funds? Three points might be addressed when looking at the French situation:

Quantitative aspects: Everything should be done to increase the percentage of GDP spent in higher education and research. France, with its high expectations, only shows an average EU performance in this field, as seen from the OECD data (OECD 2013).

Where should this increase come from? The French tradition would go for an increase of the yearly budget of universities. But other sources are possible. Student fees in France are very low: however, the student fee question is so politically hot that it might not be tackled before long.

Private donors are starting to support universities through recent foundations. But even when these foundations are successful (which is the case for the university of Strasbourg), this source of funding yields at this time only a very small percentage (1-2%) of the yearly budget.

Qualitative aspects: The “public endowment” is a very interesting mechanism that combines competitive financing with a stable situation that allows long-term planning, which is a prerequisite for a sound university strategy. France has paved the way in this field with the “investing for the future” plan.

Global image

The universities have to cast a more positive image in French society, which has, for centuries, not considered them as elite institutions. Also, we have to work in order to increase the image of our graduates, especially the PhDs. In France, only 13% of researchers working in companies are PhDs, while 52% are engineers. Clearly, the question is not to fuel a competition between two systems. The real challenge is to have everybody in this country admit (opinion leaders, journalists, parents and the students themselves) that there are numerous pathways to the top, and that a modern society should consider universities as one of its greater values.

Concentrations-mergers

One often asks if the trend towards greater concentration is desirable, inevitable — or what? Does size matter, or, on the contrary, as some like to put it, “small is beautiful”?

The French situation is a good case study of a general policy encouraging local networks, federative institutions and even mergers, such as the one we conducted in 2009. The “investissements d’avenir” financing scheme has also been designed as a strong incentive for such mergers. Research-intensive universities have been the key players in this competition. However this type of evolution still faces much opposition, especially because of the uneven geographical distribution of the “big” universities, and the fear of creating “academic deserts” or second-class universities, which both oppose the notion of a public service fostering equal access to higher education.

Our experience in Strasbourg shows that mergers or alliances are positive tools for progress. They can be powerful mechanisms to meet some of our specific challenges, such as academic fragmentation, or the blurred corporate identity of academic institutions. But they can only be successful if a strategic

goal remains the main incentive. Our merger was not an opportunistic response to a call for projects; it was a deliberate, slowly matured, bottom-up initiative, which in fact first raised negative remarks from national authorities. Mergers are also not made to solve budgetary problems or to please governments and administrations; they are only successful if built upon a genuine academic ambition (Goedegebuure, 2012).

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