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## **The Bologna process in France: origin, objectives and implementation**

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<sup>1</sup> This paper was prepared in the framework of a project led by the Tor Vergata University in Roma, under the chairmanship of Professor Donatella Palomba. The project is entitled “Comparative study of the implementation of the Declaration of Bologna in six European countries, with specific reference to the adoption of a system based on two main cycles (3+2) and to the implementation of a diploma supplement”. The six countries which are participating to the project are Croatia , Denmark, France, Germany, Italy, and UK.

## *1 The origin of the Bologna process*

The origin of the Bologna process in France can be traced in a report prepared at the request of the Ministry of Education in 1998<sup>2</sup>. This report was aimed at proposing a harmonisation of the structure of diplomas in the European space, but its real objective was connected with an in-depth analysis of the French case, which was perceived as being at risk. It is a widespread practice, in France, to claim that a badly needed reform has to be introduced for “European” reasons, because existing corporatist lobbies are often reluctant to accept any change. Both the Minister of Education, Claude Allègre, and the commissioned expert for preparing the report, Jacques Attali, were convinced that the situation of the French higher education and research system was deteriorating, especially by international standards, and after numerous attempts to introduce reforms during the past decades, it was clear that social forces driving the system could not achieve the desired recovery of the system unless an external shock was applied, hence Europe and the Bologna process. Both Attali and Allègre are convinced that the French system of higher education and research is obsolete, both are convinced that necessary reforms are awfully difficult to implement for multiple reasons, and both have made a bet that Europe could bring a solution, by forcing reluctant actors to accept a new scheme based on a European harmonization process. In this paper, we will try to show why, as Attali and Allègre claim, the evolution of the French higher education system has led to a deadlock and a deteriorating ranking on the world scene, how the new scheme has been effectively and rapidly adopted, but unfortunately, why this adoption has failed to achieve the initial objectives of transforming the French system into a more competitive one.

## *2. A brief history of the evolution of the French system of higher education*

### *2.1 The dichotomy universities/Grandes Ecoles*

The historic development of the French system of higher education is based on two sub sectors, the Grandes Ecoles and the universities. The first Grandes Ecoles were created during the French Revolution, two centuries ago, and they were designed for enrolling the best students to be trained in a specific profession: engineers for the army in the Ecole Polytechnique, engineers for building roads and bridges in the Ecole des Ponts et Chaussées, agronomists for agriculture in the Institut National Agronomique, business executives in the Ecole des Hautes Etudes Commerciales etc. Today, there are more than 300 Grandes Ecoles, all of them relatively small institutions, with a few hundred students in each.

The second sub sector, the universities, is obliged by law to enrol all candidates having the baccalaureate that is the final exam for senior secondary education. From the nineteenth century up the year 1968, universities were organized in four “Facultés”, namely law (which has included economics after the Second World War), sciences (mathematics, physics, chemistry and biology), “lettres” (or humanities and social sciences), and medicine (with pharmacy and dentistry). Each faculté used to be relatively autonomous, in that there was not a specific university management. The concept of university was basically nominal, in that sense that the four facultés located in a given city, like Dijon, used to constitute the University of Dijon.

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<sup>2</sup> Attali Jacques « Pour un modèle européen d’enseignement supérieur : rapport à Monsieur le Ministre de l’Education Nationale, de la Recherche et de la Technologie ». Ministère de l’Education nationale, de la Recherche et de la Technologie, Paris 1998, 85pp.

The two sectors of the Grandes Ecoles and the universities have been developed quite independently. The major source of regulation for the universities has always been the Ministry of Education, which has maintained a strong centralized management, while the Grandes Ecoles used to be more autonomous. There are three different categories of Grandes Ecoles, namely the Ecoles d'ingénieurs (Engineering schools), the Ecoles de commerce (business schools), and the others, such as the Ecole Normale Supérieure or the Ecole Nationale d'Administration, which are managed by the Ministry of Education, but under a specific set of rules. The 240 Ecoles d'Ingénieurs are supervised by the "Commission des Titres d'Ingénieur", namely a unit in charge of warranting that each Grande Ecole is providing training with a level of quality which ensures the capacity of the graduate to perform the task for which he/she has been trained. The 66 Ecoles de commerce are accredited by the Ministry of Education which provides a "visa", that is to say an authorisation for providing a recognised business school diploma for a given period (usually for 6 years). In addition, there exist more than 100 other business schools not officially accredited, whose quality can be rightly questioned, but which are attracting well qualified students.

The major factor which influences the ranking of Grandes Ecoles is the quality of the intake. Unlike the universities, the Grandes Ecoles are not obliged to enrol baccalaureate holders. Actually the highest ranked of them do not recruit directly baccalaureate holders. They used to enrol, through a competitive examination, students who have been specifically prepared for this track in some senior secondary schools, actually the most famous, with a long tradition of quality of teaching. This is a specific characteristic of the French system. After having successfully passed the baccalaureate, the best students are oriented in the so called "Classes Préparatoires aux Grandes Ecoles" (preparatory classes for the Grandes Ecoles). These classes are places of hard work destination. They concentrate the best secondary teachers, and the level of quality of teaching is obviously high, in particular in sciences. Students are motivated to work hard because they expect to enter not only a Grande Ecole, but the one which has the highest possible ranking.

The actual ranking of Grandes Ecoles is not provided by the Commission des Titres d'Ingénieur, nor by any evaluation process based on inputs and/or outputs indicators, but by the market, in two ways: firms which recruit graduates from Grandes Ecoles tend to offer the highest starting salaries to graduates from those perceived as the best, and the best ranked ones are those which are selected by students when they have been admitted in two or more Grandes Ecoles. Actually, the ranking is based on student capacities, student potential and abilities, as described by the content of the competitive exam. However, there is a ranking which is carried out by a weekly magazine, *Le Point*, which is mostly using inputs indicators as well as employment and salary indicators. The number of indicators utilized by *Le Point* have frequently been updated and improved, and recently, some output indicators have been introduced. But as *Le Point* is itself claiming, there is a tendency among Grandes Ecoles to inflate their indicators, and this ranking has no official value or recognition.

Whatever the ranking process, it is clear that the preparatory classes are selecting the most able students of a generation. The competences which are looked for in the selection used to be of two types: a scientific profile, with a strong mathematics bias, and a so called "littéraire"

type, based on the knowledge of classical humanities, literature, philosophy and art<sup>3</sup>. But in the sixties, the emphasis has changed, and the second type has been considered as not sufficiently “objective” for the selection process, in that students from the upper classes tend to be better accustomed to the type of competencies required by the “littéraire” track. It was thought that a selection process based on the mastering of mathematics would be more democratic and would give more chances of success to students from a lower socio-economic background. For this reason, the large majority of preparatory classes tend to concentrate on mathematics performances, even if competencies in mathematics are not a major prerequisite for the subsequent professional training.

During the mass secondary education process (1960-1990), the preparatory classes have opened their doors to slightly more students, but not as fast as the development of secondary education. The selection has become harder, and the democratisation of access has been quite limited. The more objective selection process supposed to be brought by the emphasis on mathematics has failed to increase the proportion of students from low socio economic background who have access to elitist tracks, but one can also say that the lower emphasis given to a “culture littéraire” has not improved, to say the least, the quality of the French production of the elite. In a way, the first important change in the system (the emphasis on mathematics) has had a negative impact on the quality of the elite production, and consequently, on the road to excellence for the French system.

## 2.2 The 1968 university reform

The second reform was the result of the 1968 social events in France, during which the students organised, in the whole month of May, a protest movement aimed at producing a new “revolution” in French society, eliminating the capitalist nature of the country, and eliminating also a certain number of French archaisms, in particular in the university. The underlying objective was a request for more freedom on societal issues such as in morals, and also more student participation in areas where their future is at stake. The revolution failed, and the new government which has emerged from these events was more on the right than the previous one. But the new government gave a bigger role to students’ representatives in the councils which manage the universities. It has also decided to sort out the growing problem in several French universities: their excessive size. At that time, the Paris University had more than 200000 students, and in Bordeaux, Toulouse, Strasbourg or Lille, it was normal to enrol more than 50000 students.

The reorganisation of the university system for setting up smaller institutions when necessary has followed an approach which is not particularly French. Instead of designing a rational model from the centre, the government has invited each university to make proposals for defining the perimeters of the new institutions. The outcome of the exercise has been largely determined by the political preferences of actors at the local level. In humanities or in sciences, the political majority was more often on the left, while in law and medicine it was more often on the right. In certain cases, the political antagonisms within a given discipline have led to the creation of two entities in the same city with each providing the same diplomas. The general outcome is that most new universities are not any longer multidisciplinary, but reunite one or two of the former *Facultés*. The only fully multidisciplinary universities which have survived are those of middle size cities, in which the

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<sup>3</sup> It exists a third track for preparing students to business schools, which is neither « littéraire » nor scientific in principle, but supposedly more “socio-economic oriented”. Actually, this third track is close to the scientific track.

total number of students was too small to justify the splitting of the existing university. But these universities were scientifically rather weak, in any case had a lower scientific status than the biggest ones, and they could not pretend to become leaders in the ranking.

The reorganisation process has entailed another negative consequence, namely the absence of a rationale in the allocation of buildings. In Paris for instance, the 14 universities which have been created from the previous Paris University can not be identified by campuses or by a set of adjacent buildings. It is possible that in a given building, certain floors belong to a given university, and certain others to an other one, or even to a non university institution.

Universities are more concepts than physical entities. Certain universities may have a very large number of different addresses, because they are spread all over the city. Undoubtedly, such a context is less attractive than the pattern of “university campuses” elsewhere in the world, or even towns which have been created around the university, and serve the university interests instead of making its daily life more complicated.

### 2.3 The introduction of short vocational studies

The third reform is linked to a recurrent complaint faced by French universities: lack of concern for the requirements of the job market, with graduates not being prepared enough for available jobs. Hence the idea of setting up specific institutions, the university technological institutes<sup>4</sup>, in charge of training a large variety of middle level specialists in two years after the baccalaureate. Actually, they are similar to tertiary institutions which are defined by the UNESCO standard classification as “non university tertiary institutions”, and they borrow some of the features of the American community colleges, in so far as their diploma can not be called a first university degree.

Such an institution, in other countries, is aimed at enrolling students with a lower academic profile than regular university students. They usually receive fewer resources per student, because they recruit a teaching staff of a lower status than full university professors. But France has done exactly the opposite: the new technological institutes have been awarded the right of selecting their students among baccalaureate holders, and they have been allocated financial means per student significantly above those of a university (actually three to four times the amount given to university first and second graders). As a consequence, the intake of the technological institutes has a better academic profile than the average university student and, like the Grandes Ecoles, the technological institutes deprive universities of a certain number of qualified candidates.

### 2.4 The extension of the baccalaureate label

As indicated earlier, all baccalaureate holders are entitled by law to a place in a higher education institution. This rule was understandable at a time when a minority of well selected students has access to baccalaureate (about 5% of a generation). Progressively, the proportion of a generation passing the baccalaureate has increased, because access to secondary education has become universal. It is difficult to assess whether the extension of access to the baccalaureate has had a negative effect on the average academic capacities of baccalaureate holders, as far as the general baccalaureate is concerned. It is likely, but not empirically

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<sup>4</sup> In French, Institut Universitaire de Technologie. The word « universitaire » indicates that they belong to a university, but actually, unlike other university departments, they enjoy a specific status, with a large autonomy vis-à-vis the university management. Very often IUTs directors bypass the president of its Mother University and negotiate directly with the Ministry of Education.

demonstrated, because the baccalaureate is not conceived as a standardized test, like for instance the American SAT.

The label “baccalaureate” has been subsequently awarded to other categories of secondary education tracks. It has first been awarded to students who have followed a technological track, and more recently to students who have followed a vocational track. It is justified to claim that these two new categories of baccalaureates have not the same academic value than general baccalaureate, because of their curricula. Universities have not been consulted about the decision. It has been decided at the government level, in order to extend access to tertiary education to similar proportions as in countries in which diversified categories of tertiary institutions are adapted to diversified student profiles.

Presently, approximately 33% of a generation pass the general baccalaureate and 30% the two other categories. The academic profile of these 30% is clearly more adapted to technological institutes, or any other short term vocational training programme<sup>5</sup>. Here again, France is doing the opposite, by allowing technological institutes to enrol general baccalaureate holders, and by forcing universities to enrol technical and vocational baccalaureates.

To summarize, French universities are obliged to enrol all baccalaureate holders, whatever their competencies with respect to academic prerequisites for a given track. They have to deal with a highly diversified range of student profiles in a given class, usually with a mixed intake, and they have to implement this impossible duty with a level of means far below world standards. On the other hand, the Grandes Ecoles and technological institutes can select their students, and are allocated a level of resources in tune with world standards.

### *3. Higher education and research*

As in the rest of the world, French universities have a research mission. This is less the case for the Grandes Ecoles, or for the technological institutes. But in the late 1930s and after the Second World war, French authorities judged that the research mission carried out by universities was not strong enough, and that it was necessary to complement this university mission by other means. Several national research organisations have been set up. The largest is the CNRS<sup>6</sup>, which covers 40 disciplinary fields, from natural sciences to humanities and social sciences, and runs about 1300 laboratories. The INSERM is in charge of medical research, the INRA in charge of agronomic research. Some subsequent organisations have been created for research in space, research in oceanography, etc. One can mention also the Centre for Atomic Research, a well funded defence organisation in charge of carrying out all aspects of nuclear bomb production, from fundamental research to industrial production.

This approach, close to the Former USSR conception of research in the well known sciences academies, has had some advantages, and some successes, but also some drawbacks, which tend to appear today as an obstacle for maintaining a high ranking for French research on the world scene. Such an approach tends to isolate French laboratories. As the system is directly managed by public authorities, researchers do not have the same level of international peer review as university based ones. They are civil servants, they are not primarily rewarded by an active process of publication in refereed international journals, or by better salaries when

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<sup>5</sup> There are two others categories of short term professional tracks after the baccalaureate, namely the “Sections de techniciens supérieurs » run by some upper secondary schools, and specialized schools for training paramedical personnel, such as nurses and midwives, or for training social workers.

<sup>6</sup> In French, Centre National de la Recherche Scientifique

they are highly productive, and they have no access to the post graduate environment of a university, in which young researchers are bringing permanently new blood in laboratories. Actually, the average age of researchers in these organisations has permanently increased since the sixties, and more than half of them are presently more than 50 years old.

The system has evolved, in particular CNRS, which has increased progressively its association with universities, and has based the evaluation of researchers more and more on their publication output, although poorly productive staff is rarely fired. Many CNRS laboratories are presently “mixed” laboratories, and are jointly managed by the central CNRS board and the university authorities where the laboratory is located. But the evaluation procedures remain specific to each institution, and when conflicts are occurring, the CNRS has the last word. Many French observers of this situation are convinced that the system should evolve in the direction of world standard practices, in which universities have the key role in research production and management, but two factors work against this trend: first, unions in research organisations fear that they will lose part of their influence, and second, the deep crisis which affects universities, as explained above, is perceived as a great danger for the future of research, if it falls in the hands of incompetent organisations. The status quo is perceived as the safest solution, in that as the reinforcement of university management power could lead to a worsening trend.

In both the Grandes Ecoles and the technological institutes, research plays a minor role for different reasons. In the Grandes Ecoles, research is unlikely to be developed because the vast majority of them do not have a doctoral programme. They have their specific diploma recognized by the “Commission des Titres d’Ingénieur”, which is more or less equivalent to a master degree (baccalaureate plus five years of tertiary education, namely two years in the preparatory classes and three years in the Grande Ecole itself). Of course, the Grandes Ecoles claim that their master degree has a higher status/value than the regular university masters degree, and it is true that the job market plays in favour of the Grandes Ecoles diploma, but one can argue that it is not the outcome of a specific quality inherent to the Grandes Ecoles. It is mostly the outcome of the monopoly given unfairly to the Grandes Ecoles for enrolling the most able students.

But they have never been thought as institutions active in the delivery of doctoral degrees. They were adjusted to a precise segment of the job market, for which the possession of a PhD was not required. Doctoral degrees in France used to be required for future university professors and other academic researchers, but were not a requirement for entering executive positions in the private sector, or even in high public positions. The highest positions in the French public sector are occupied by graduates of a specific Grande Ecole, the Ecole Nationale d’Administration, which does not provide a doctoral programme.

For graduates of Grandes Ecoles, doing a doctorate is a waste of time. The economic return from a doctorate is not higher than the economic return from the masters’ degree equivalent they receive after 5 years. It would be economically irrational to spend an additional three years period for acquiring a doctorate. This is why only a small minority of them, those with a high motivation for research, are enrolling in a doctorate programme, usually in the framework of an ad hoc agreement between the Grande Ecole and a nearby university.

One could have anticipated that a certain proportion of Grandes Ecoles graduates would be interested in careers in research laboratories of big firms. This is not the case. Research careers in big French firms are less attractive than those of executive officers, and highly



talented engineers from the Ecole Polytechnique, for instance, are more interested in CEOs positions in banks or insurance companies, where their income is much superior to any possible income from research positions.

However some Grandes Ecoles are pursuing a respectable research programme. The proportion is not well documented, but it is the case for about 5-10% of them. These research programmes are not really connected with a doctoral programme, as was said earlier, but they are linked to the fact that most CEOs in French firms who want to fund a research programme with a possible development outcome give a better rating to Grandes Ecoles than to university laboratories. They have been trained themselves in Grandes Ecoles, and they tend to have a poor view of universities performances, in both research and degree supply. But overall, big firms in France tend to be less involved in research and development programmes, both internally and externally, than their foreign equivalent. Research and development expenditures in France are lower than in other developed countries by a significant margin, but the gap is entirely related to a lower private involvement, while public expenditure tends to be similar to those of other countries.<sup>7</sup> This may be related to the fact that a majority of French CEOs have never been exposed to research activities in their initial training in Grandes Ecoles.

Finally, the major reason why Grandes Ecoles have not been active in research is linked to their size. They have a relatively modest teaching staff, because the number of students is itself very low (most of the time less than 500, which makes the size of the faculty below 50 on average). As a consequence, it is rather exceptional to find in a Grande Ecole a significant set of academics working in the same field, and it is almost impossible to reach the critical size which is presently required in the world for carrying out a competitive research programmes. Furthermore, a majority of Grandes Ecoles do not rely on a permanent full time faculty. They prefer to recruit on a part time basis the best university professors, who are already engaged in university laboratories.

As far as technological institutes are concerned, it must be said that only one third of their teaching staff has a doctoral degree. Another third is supposed to be recruited among professionals who have their main job in firms which are recruiting the graduates of the institute, and the last third from secondary education teaching staff. In addition, the institutes are also relatively small institutions. They are slightly bigger than Grandes Ecoles, but given the fact that their faculty is diversified, they can not reach, as the Grandes Ecoles, the critical size which would allow the development of a competitive research programme. Actually, the university professors who are engaged in these institutes tend to perform their research in university laboratories belonging to the same university as the technological institute.

These specific features of the French system of research and higher education lead to a pessimistic conclusion from a research point of view: the most talented students of a given generation have few incentives and/or opportunities to become researchers or university professors.

#### *4 The ranking of French higher education institutions in the world league.*

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<sup>7</sup> See Orivel, F. "Pourquoi les universités françaises sont-elles si mal classées dans les palmarès internationaux?" Les notes de l'Iredu, 04/04, mai 2004, Dijon

The Jiao Tong University of Shanghai published in 2003 the first ranking of higher education institutions in the world. It has updated this first league in 2004, with minor changes which do not affect significantly the position of French institutions, namely a highly disappointing level of performances (from a French perspective). In the 2004 ranking, the first French institution is ranked at the 41st position, the second one at the 48<sup>th</sup> position, the third and fourth ones respectively at the 82d and 83d positions. There are only 4 French institutions in the first top 100 world universities. Before the first French university, one finds 30 US universities, 4 British ones, 2 Japanese, 2 Canadian, 1 Swiss and 1 from Netherlands. The ranking illustrates clearly the dominant position of US universities, but also the fact that countries smaller than France, such as the Netherlands and Switzerland, are performing better. One can also notice that Germany and Italy do not perform better than France in the top league, but the number of French universities belonging to the top 500 world universities is smaller than that of Germany (respectively 22 and 40), and equivalent to that of Italy (21). One can conclude that France is far below its expectations, and that it shares with Germany and Italy a relatively low level of performance, although the German case reveals a higher average level than the French one.

A key feature which makes these three systems different from the best performing group is the following: the dominant principle of enrolment within the low performers is student choice (most students are enrolled in the university they want to be enrolled in), while in best performing countries, the major principle of enrolment and the dominant decision maker is the university, which has the capacity to select the students it wants to enrol among a larger number of applicants (as in French Grandes Ecoles and technological institutes).

Is the Chinese ranking reliable? It is not easy to find undisputed indicators for carrying out this exercise. The study has selected five indicators, all of them connected with the production of knowledge. This choice raises the question of the measurement of the quality of teaching services provided by universities, as far as the training of students remains an essential objective of universities. One can assume that one of the intentions of the Chinese study is to give a more objective picture of the world best universities for disseminating useful information for Chinese students interested by studying abroad. The Chinese demand for high quality tertiary education outside China is intense. This demand is sustained by a strong willingness to pay privately (as a household), and the Chinese authorities are encouraging this trend which is seen as an avenue for accelerating Chinese access to the most advanced technologies, as well as for participating actively to the world process of creating new knowledge.

The five selected indicators are (i) the number of Nobel prizes attributed to scientists of that university, (ii) the number of quotations of publications made by the staff of the university during the 1981-1999 period, covering 21 domains of research, (iii) the number of articles published in *Science* and *Nature* during the 2000-2002 period, (iv) the number of articles listed in the Science Citation Index and in the Social Science Citation Index, and finally (v) a performance indicator based on the four previous indicators related to a given university, divided by the number of full time equivalent faculty members. These indicators are pure outcome indicators, unlike most other previously known rankings, such as the one published by the Times newspaper in UK, or by different sources in the US, such as the Lombardi Program on Measuring University Performance or US News and World Report.

The analysis of the common characteristics which are shared by the best institutions identified by the Shanghai study leads to the following conclusions: the best 100 have in common 6

features, namely (i) the possibility of enrolling the most able students of the country or from abroad; (ii) the capacity of recruiting the most qualified staff available in the country, and for some of them in foreign countries, often attracting them thanks to higher salaries than those offered by less prestigious establishments; (iii) the allocation of higher resources per student than those in regular universities; these higher resources are a combination of public subsidies, fees, and income from private donations or from private contractors; iv) the presence of a research capacity significantly above the average; (v) the supply of a large variety of disciplinary fields, which facilitates multidisciplinary approaches and the exploration of new domains of knowledge; and finally, (vi) an important critical size: the majority of these high ranking institutions have between 10000 and 25000 students, which entails a professional staff in the range of 1000-3000.

The capacity of the French system to generate this model is not an easy task. Universities have not the possibility of recruiting the most able students, and rarely that of attracting highly talented staff through higher compensation. In addition, they are known as being under funded, and very often, since the post 1968 reform, they are not any longer multidisciplinary, especially those which could have been candidates for excellence, such as the Paris university or those of other important French cities, which have been split in mono-disciplinary establishments.

Similarly, the Grandes Ecoles are at a disadvantage to compete with the top world institutions, because they are too small, mono-disciplinary, and poorly adapted to research. The combination of the six favourable characteristics within the same institution is therefore unlikely in the French case. Among the four French institutions listed in the top 100, three are big scientific universities (two in Paris and one in Strasburg), and the fourth one is a Grande Ecole, the prestigious Ecole Normale Supérieure. Paris 6, for instance, which is ranking first in the French league, and 41st in the world league, has 30000 students and 7000 staff, of which more than 5000 are professionals. It has 180 research laboratories. But the performance indicator, which is obtained by dividing the total output by the number of staff, is relatively modest, in so far as its value is only 32.6% of the best ranked university. Actually, this is a weak aspect of the Shanghai study to favour the largest institutions at the expense of smaller ones, in so far as 4 out of 5 output indicators are not adjusted to size, which gives an unfair advantage to the biggest institutions.

The only way to favour the emergence of French institutions closer to the top league is to combine the two sets of advantages one can find in both the universities and the Grandes Ecoles, which implies, as recommended by the Attali report, the merging or the association of certain universities with certain Grandes Ecoles. The European harmonization of diplomas was supposed to encourage the Grandes Ecoles to find university partners for offering the same set of three diplomas instead of one. The globalization process which is currently underway plays against the specificity of the French approach, which gives a pre-eminence of engineers trained in Grandes Ecoles over those holding doctorates from the university. Actually the title of doctor is becoming more valued than that of engineers in multi-national firms, and the French engineers can expect growing difficulties for competing with PhDs in the future. The Grandes Ecoles are trying to develop doctoral programmes for their engineers, but according to a survey carried out by the Grandes Ecoles secretariat, only 7.5% of engineers who are graduating from the Grandes Ecoles are undertaking doctoral studies. It is hardly enough to create the new elite France needs.

If the present ranking provided by the Shanghai study is taken as a starting point, what could be the French strategy for improving its relative position? A first one could be to do as well as Germany, namely to have about 40 universities instead of 22 ranked among the top 500, without any significant improvement in the top 50 or 100. Or it could try to have the 4 presently listed in the top 100 ranked in the top 30 or 20, as the United Kingdom. These two alternative strategies imply different means. The first strategy implies a significant increase of funding of the majority of French universities, and likely a merging of research institutions with universities, in order to reinforce a significant number of universities. This approach will take time, and the success is not guaranteed, in so far as many other countries are also willing to participate in this move, and consequently make strong upgrading efforts for their university and research system (see for instance some projects in Japan, Germany and China).

In order to have rapidly 4 French institutions in the top 30, it would be easy to achieve this objective if the first ranked university, Paris 6, is merged with the first ranked Grande Ecole, the Ecole Normale Supérieure. They would add their outputs, and make a total close to that of the 10<sup>th</sup> university. Similarly, the second ranked university, Paris 11, could merge with the second ranked Grande Ecole, the Collège de France<sup>8</sup>, and the two combined would have a total output close to that of the 15<sup>th</sup> one in the world league. The same could be done with the two following Paris universities, Paris 5 and Paris 7, merging respectively with the Ecole Nationale des Mines and the Ecole Supérieure de Physique et de Chimie Industrielles. Of course, there is a strong Paris bias in this approach, but one could also merge the University of Lyon 1 and the Ecole Normale Supérieure de Lyon, whose combined inputs would propel them into the top 100 instead of being only in the top 250.

In addition, the four or five newly created institutions after the mergers could be given a specific right to select their students. Such a move would be a strong facilitating factor for helping these new elite institutions to become more attractive and therefore more competitive. Such a reform is negatively viewed by French universities. This reluctance can be traced in the French schizophrenia related to the dilemma excellence/equality. French people love both excellence and equality, and this ambivalence creates a permanent contradiction in the perception of desirable reforms. This contradiction is perfectly illustrated by the person in charge of education for the socialist party, who has recently declared that the objective of the party in the field of higher education was to drive the system in the direction of “excellence for all”. Strictly speaking this means that in the Shanghai classification, the 93 French universities should be ideally ranked all at the first place. Even the word “excellence” is often perceived as negative, because it entails that if someone or something is excellent, the peers may not be, and that is unfair from an egalitarian perspective.

On the other hand, French people love to be seen as better than others, and this is sometimes irritating. A TV speaker who is mentioning Paris adds routinely that it is the most beautiful city in the world; the Champs-Élysées, of course the most beautiful avenue in the world. The Louvre is the biggest and richest museum in the world. Mona Lisa, in the Louvre, is the most beautiful painting in the world (and the most expensive!) etc.

This attitude leads to conflicting views concerning what are the desirable reforms in the French system. Some argue that in order to improve French universities, it is more important

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<sup>8</sup> Actually, the Collège de France is not a Grande Ecole, but an academic institution not involved in the production of university degrees. It is actually an elite academic institution ranked between the 150<sup>th</sup> and 200<sup>th</sup> position by the Shanghai study. As its knowledge production is not related to any institution enrolling students, that means, from the Shanghai study perspective, a complete wastage of efforts.

to give more means to those who have less resources and/or lower performances than to those who are already well endowed. Such a policy would hardly help the French system to have better ranked institutions in the Shanghai classification.

#### *4 The implementation of the Bologna process in France.*

Unlike other European systems, French universities have a tradition of awarding many types of diplomas. There are plenty of diplomas after two years of higher education, after three years, four years, five years and eight years. The pre-Bologna structure is not, as in the Bologna declaration, 3+5+8, but 2+3+4+5+8. Will the Bologna structure eliminate the non Bologna steps, namely 2 and 4? Of course not, because it would hurt too many interests or existing regulations. Technological institutes, for instance, would have to add a third year of education for awarding the first Bologna degree, and it would be awfully expensive. So the 2-year diploma is maintained. What about the fourth year one? Actually, there are two categories of diplomas at this level, the “*maîtrise*” and the “*ingénieur-maître*”<sup>9</sup>. The *maîtrise* will be maintained after Bologna, because it is a certification level which is still utilised as a prerequisite for several recruitment procedures in public services. The “*ingénieur-maître*” will be maintained also because if it becomes a +5 diploma, the cost of creating a fifth year in IUPs will be too high, and the Grandes Ecoles will feel that it constitutes an unfair competition with their own diploma.

As a consequence, in order to introduce the Bologna structure within the French system, very few changes have to be introduced: first, the master degree (+5) will replace the former DEA and DESS<sup>10</sup>, two 5+ diplomas respectively thought as opening the door to a doctoral programme and to the job market. This reform implies that the master is becoming a two-year programme, the first year (M1) being created by the transformation of the former “*maîtrise*” year, and the second (M2), by the transformation of the DEA/DESS year. The second year of the master degree maybe conceived in three ways: (i) as leading to research, as the former DEA; (ii), as leading to the job market, as the former DESS; and (iii) as leading to both, with optional courses adapted to each choice.

The second reform implied by Bologna is the transformation of the present certification process into the ECTS system. Previously, a majority of French universities used to rely on final yearly exams for each certification step. Progressively, some of them have introduced a “*contrôle continu*”, which means the accumulation of partial exams during the school year. In addition, some have also introduced a credit system, slightly different of the ECTS one, but adaptable to ECTS requirements. As a consequence, the ECTS is some kind of completion process which is based on a certain spontaneous evolution.

Both reforms have been integrated in a majority of French universities relatively easily. One can anticipate that the process will be achieved during the next school year, 2005-2006.

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<sup>9</sup> “Ingénieur-maître” is a recently created diploma for an other innovation introduced in French universities, namely the “Instituts Universitaires Professionnalisés” (IUPs). Incidentally, these IUPs have been invented by M. Allègre, when he was adviser to the minister of education (before becoming himself minister), and were aimed at accelerating the “professionalisation” process of French higher education. It shows that M. Allègre, who is seen as one of Bologna founders, is at the origin of two conflicting innovations.

<sup>10</sup> DEA stands for « Diplôme d’Etudes Approfondies » and DESS for “Diplôme d’Etudes Supérieures Spécialisées” Both used to be one-year programmes after the maîtrise.

A third step will be the “labellisation” process of the ECTS system, which implies that universities are able to provide on their website a detailed description of all available ECTS. This step may appear as more difficult to implement, because there is not a strong tradition, among French professors, of publishing the syllabus of their courses. In addition, one needs to have active entrepreneurs in each university departments for extracting the syllabi from all their colleagues, and for consolidating and synthesising all their inputs. Such a function does not exist routinely in French universities, and one may anticipate some delays and some resistance. Professors seem to think that it is the duty of administrative staff to perform this task, while the administrative staff thinks that they have neither the capacity nor the authority to achieve it.

The fourth step, the diploma supplement, is not in a better situation. There are few universities who have introduced a diploma supplement which is in accordance with the intentions of those who have planned the system. One is facing the same difficulty as for the third step, namely a lack of relevant traditions among French professors, and a lack of management capacity for implementing the component.

But on the whole, the adaptation of French universities to the minimal requirements of the Bologna process seems to be on the right path, and will be rapidly completed. According to a quick evaluation of the new scheme in the first three universities which have introduced the system in 2002, it appears that the reform has benefited the students. The number of drop outs has declined by 10 to 20%, and the promotion rate has increased from 70 to 80%. The newspaper *Le Monde* has published an article entitled “The harmonisation of diplomas in Europe is applauded by French universities.” (Le Monde, Dec. 4, 2004)

However, this apparent success is largely a façade. The reform process has achieved none of the underlying objectives sought by its initial promoters, Allègre and Attali. The implementation process does not affect the capacity of the French system to become more competitive on the world scene. The majority of university departments have simply changed the names of their diplomas, but not their content. Most professors have reintroduced existing courses in the new architecture, but there is no real attempt to improve current practices. The system is more or less the same as before, and one can hardly anticipate a new dynamism in the system for achieving the ambitions set up by its promoters.

As far as the merging of universities and Grandes Ecoles is concerned, the process has been a complete failure, mostly due to the reluctance of Grandes Ecoles to participate. In a point of view published by *Le Monde*, Christian Margaria<sup>11</sup>, head of the “Conférence des Grandes Ecoles”<sup>12</sup>, argue that Grandes Ecoles would be ill-advised to merge with universities. According to him, the Grandes Ecoles are producing the best possible graduates, which make France the envy of other countries. The argument that Grandes Ecoles are not open to students from low socio-economic background is not valid, as far as universities do not behave better at the postgraduate level, the only level one can compare with Grandes Ecoles. To summarize, the author thinks that it would be foolish for France to give up a system which performs perfectly its mission of producing the elite it needs, for a system run by its weakest component, namely the universities.

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<sup>11</sup> Le Monde, 12 April 2005, « Les Grandes Ecoles face à l’Université » p15

<sup>12</sup> The « Conférence des Grandes Ecoles » is a kind of common secretariat which federates all types of Grandes Ecoles, in particular the engineering schools and the business schools.

The same argument is raised by research organisations, such as the CNRS and the like, which are similarly invited to merge with universities, in order to promote a better synergy between teaching and research. Here again, it is feared that such a model would fail in France, because universities are supposedly not able to operate efficiently.

This deadlock will not be bypassed as long as universities are supposed to be similar in terms of quality and knowledge production. Most countries which have well ranked universities accept the idea that not all of them can pursue the same objective. Institutions of higher education have to be diversified, and only a minority can have access to excellence. In the US, they are called research universities, and they enrol about 15% of the student population. In the UK, all universities are evaluated by the RAE<sup>13</sup> system, which classifies universities into five categories, and only those belonging to the highest rated category belong to the top 100 world universities. Here again, they recruit less than 15% of the student population, and these 15% tend to be the most able ones.

For this reason, it is unwise to imagine that all 93 French universities could be involved in mergers with both the Grandes Ecoles and the research organisations. One should start with a limited number, in the lines of the five merging examples listed above, and any additional merging would have to be carefully scrutinized and evaluated. Unfortunately, this view will not be seen positively by universities, which are reluctant to accept that the majority of them are unlikely to have access to excellence in the Shanghai study sense. They can be excellent on other dimensions, such as specific relations with their environment, the enrolment of students with specific profiles, or any other “niche” which is not occupied by the top 100, but these opportunities are far from having the same attractiveness.

### *Conclusion*

Excellence or equality at the higher education level is an old French dilemma. The equality objective has received more attention than the excellence one during the past decades, and there is still a long way to go for reversing this trend. The reforming capacity of French public institutions is weak, and if the “European” argument does not work, the likelihood of reform is even more distant. M. Allègre, who has tried to be one of the most ambitious ministers of education for carrying out reforms in the past two decades, has given his new perception of the problem in a recent issue of the quarterly journal “*Commentaire*”<sup>14</sup>. He argues that the French system is not ready for serious reforms, and that its strengths remain reasonably good as it is. Unwanted reforms could kill the patient, and the best way to help the system is a massive injection of additional public money. He claims that in the next three years, the public budget for the higher education and research system should be allocated a twofold increase. Who can accept this argument, at a time when France is fighting desperately to reduce its public budget deficit? One may fear that the French system will have to deteriorate still further to make the French society open to effective changes.

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<sup>13</sup> Research Assessment Exercise

<sup>14</sup> Allègre, C. “Espérons pour entreprendre”, in *Commentaire*, Numéro 108, Hiver 2004-2005, Plon, Paris, pp973-977