

futuribles

N° 459 • March-April 2024

Is France Still a Land of Science?

Emmanuel Basset

March being the month when French secondary students formally finalize their post-school plans, the time seems right to ask how things stand with the French system of higher education and research. Is it still attractive, effective and keeping pace with our society's future needs? To address these questions, Emmanuel Basset examines first how France compares internationally in its levels of research investment. He goes on to stress the risk that the country may fall behind scientifically as a result of a worrying fall-off in its research funding, which is even more marked in the private than the public sector. He also shows that French research performance, while admittedly still within the global average range, points to the system weakening and already declining somewhat by comparison with other countries.

It has been the aim of a series of science policy reforms undertaken over the last 15 years or so to counteract this decline. Emmanuel Basset traces both the impact and also the limits (fragmented funding, lack of attractiveness, administrative complexity etc.) of these measures. As he sees it, if progress is to be made and the trend towards scientific decline reversed, three conditions must be met: the spiral of underinvestment must be halted and more funding must go to research (particularly in the private

sector where investment lags behind); there must be further reorganization and simplification, strengthening the strategic culture (in the allocation of funds, co-operation, the assessment of results etc.); and the appeal of careers in research needs to be restored. The aim must be to produce a 'culture shock', Basset argues, to extend and improve on the reform efforts already begun and so avoid falling behind more irrevocably.

Disruptive Innovation: France in Global Competition

*On Sonia Bellit and Vincent Charlet's Study *L'Innovation de rupture**

Pierre Papon

In an increasingly competitive economic world, with some technologies (such as AI) making dazzling advances, R&D capacity and the ability to innovate have become strategic assets in international competition. Among these innovations, those capable of radically transforming a sector — and, indeed, our everyday lives — occupy a crucial place in the minds of economic actors. This is why 'La Fabrique de l'industrie' has conducted a study devoted especially to 'disruptive innovation' and France's ranking on a world scale in that area. Based on personal testimony and an analysis of the data on patents in 12 fields of technology (8 related to ecological transition), the publication drawn from that study, which Pierre Papon reviews in this article, affords an

understanding of France's innovation dynamic, its technological positioning and the type of institution involved (public-sector organizations, start-ups, major corporations etc.).

As Papon stresses, in these cutting-edge fields that are particularly key to driving the future the Asian countries and the USA lead the world. In Europe, with a few exceptions (including Germany), research lags behind, with France apparently losing momentum. He sums up the lessons and indicators provided by this study, together with its recommendations for lending renewed dynamism to French research and innovation in these strategic sectors.

Global Heating in the Alps Glacier Degradation, Decline of Snow Cover and the Conse- quences for Water Resources

Bernard Francou

2023 was the hottest ever seen by the World Meteorological Organization since temperature records began, with multiple major climate catastrophes, particularly in France. With droughts and water shortages in the South of the country, flooding of biblical proportions in the North and landslides in the Alps, we are increasingly seeing the climate-change phenomena scientists have been predicting and fearing for decades. In this article, Bernard Francou focuses on the specific case of the Alps.

Francou, a specialist in high mountain regions and a glaciologist, offers a detailed, concrete analysis of the impact of climate change on this region, which is crucial in hydrological terms. He cites a wealth of scientific findings on temperature, glacier volume, snow levels, rainfall figures etc., identifying

the long-term trends in that data, which very clearly show an (accelerating) decline in snow cover and glacier size. He also points out how this trend could develop in scenarios in which planetary temperatures increase, as well as the knock-on effects not only for the Alpine region, but also for the river basins downstream from the Alps and for France's hydrology in general.

On the French Population's Carbon Footprint

A First Behavioural Survey

Jérôme Boutang

We have devoted many column inches in these pages to various scenarios for ecological or energy transition, drawn up by both French and international bodies (International Energy Agency, French Ecological Transition Agency, RTE / France's Transmission System Operator etc.). Most of these foresight exercises have highlighted the fact that technical developments alone would not be sufficient — or would not move fast enough — to curb climate change by the end of the century, and that there had to be decisive efforts to change behaviour and lifestyles. In other words, an essential driver for safeguarding the planetary living conditions of future generations was the urgent promotion of ecological self-restraint. To that end, it is essential to be able to draw on indicators showing precisely where there is scope for manoeuvre for reducing greenhouse gas emissions. This is the aim of the 'carbon footprint', which measures the emissions made by all economic actors with relative precision. In this article, Jérôme Boutang looks in a more detailed way at the carbon footprint of the French population as it emerges

from a survey which enquired into people's lifestyles and consumption patterns. After outlining the methodology and the virtues of this survey (based directly on behaviour), he enumerates its main findings: the distribution of the footprint by geographical location, business sector or socio-economic characteristics (based on income level or occupation) etc. This detailed 'profiling' enables us to see, at the individual level, the actions causing the highest emissions and to design remedial measures. It also allows policy-makers to identify the scope for action and possible levers for developing tools/incentives to promote greater collective energy sobriety.

Police Stop-and-Search Policies in Europe

Recurrent Protests, Limited Reforms

Jacques de Maillard and Mike Rowe

The question of police violence, which has long been highly significant in the USA, is now also a subject of debate in France. It is becoming increasingly prominent as a result of media coverage of a number of major incidents and the intervention of citizens or groups uniting around the issue. Among the subjects regarded as troubling in this regard, police stops, which at times have led to violent incidents, are very much to the fore. They are the main focus of this article.

Drawing on a Europe-wide research project, Jacques de Maillard and Mike Rowe offer an analysis of police stop-and-search practices in Europe and the way these are framed in public debate and by political decision-makers. After reminding us of the factors that have brought police stops into public focus, they examine the

impact of that increased attention on the way these are carried out — and, to varying degrees, overseen — in a range of countries (Germany, Scotland, Spain, Austria, Finland etc.) by comparison with France, with particular reference to the level of trust between police and society. In this way, they show how stop-and-search practices and related policies have developed differently in response to the questions raised in the debates: with 'incremental' changes, some a little more extensive and even significant, as opposed to inertia. Lastly, they stress the specificity of France, where reforms have been particularly difficult to implement, and outline three possible developmental scenarios for the country.

European Funding, Conditionality and Respect for Values

The EU Gives itself Teeth

Catherine Vieilledent

At the December 2023 European summit, the EU member states officially decided to pursue enlargement of the Union by opening accession talks with Ukraine and Moldavia. As in previous enlargements, a number of conditions relating to compliance with the EU's treaties and values will have to be met before the process can advance. Among these, respect for the rule of law is an essential prerequisite. However, this has suffered in recent years within the EU itself, some of its member states (Hungary, Poland) having mounted a challenge to rule-of-law principles. However, in a situation where unanimous votes are required, it is very difficult to force these offending states to reverse their actions, except by employing funding as a

weapon. It is therefore along those particular lines — by the establishment of new arrangements for the ‘conditionality’ of funding — that the European institutions are exerting pressure on the members that do not respect the Union’s fundamental values.

Catherine Vieilledent explains here how this conditionality works: how it emerged and has developed; how it has been applied (with difficulty); and the consequences for the states concerned. Though somewhat technical in appearance, the question of conditionality bears on some major issues relating to the founding values of the EU, in a context where the power balance between democratic parties and populist, extremist ones is currently shifting somewhat in the latter’s favour.

The Question of Ukraine’s Borders

Jean-François Drevet

With the situation growing increasingly difficult for the Ukrainians in the war being waged on their own lands against Russia, the member

states of the European Union decided officially in mid-December 2023 to open negotiations with Ukraine (and Moldavia) over EU accession. By speeding up what is normally a much longer process, the EU was sending a strong signal, mainly to Moscow, of its support for the Ukrainian government and its rejection of Russia’s territorial revisionism. In doing so, it raised a thorny question about what Ukraine’s borders should be, some of which would logically become the external frontiers of an expanded EU.

In this Chronicle, Jean-François Drevet examines this issue of borders — how they are determined and agreed upon — in the light of historical developments, still unresolved problems in certain member states or candidate countries, issues of self-determination, and the concerns all of this may engender in Europe. While one of the aims of European construction was to put an end (as far as possible) to territorial and, hence, border disputes — something which has been more or less achieved — EU expansion toward the East might well have the opposite effect, depending on the decisions taken over the frontiers of Ukraine, by inflaming debate (and opinion) on the setting of territorial borders. ■

***Futuribles* is a bimonthly independent transdisciplinary policy oriented journal (6 issues a year), also available in electronic form on the *Futuribles* website.**

Its objective is to provide its readers with a better understanding of contemporary societies dynamics, those facts, ideas and trends shaping their medium and long term possible futures.

Chief Editor: Hugues de Jouvenel

Futuribles • 47, rue de Babylone, 75007 Paris, France • Tel. +33 (0)1 53 63 37 70

E-mail revue@futuribles.com • Website <https://www.futuribles.com/en/>