when near-centenarian Antoine Pinay, De Gaulle’s Finance Minister in the early 60’s, was asked what he thought about France’s over 3 million unemployed, he threw the blame at scientists. “They are the ones who invented those fancy machines which destroyed jobs, now it’s up to them to come up with solutions”.

Pinay had the excuse of age. His remark however is characteristic of a recent tendency by public opinion and the media (obviously without the same excuse) to blame recent societal developments on Science and scientists. This cannot leave EUROSCIENCE indifferent. Obviously, we believe scientists should neither flee their responsibilities vis a vis Society, nor the debate about what these responsibilities are. There is no reason however to leave anti-science attacks unanswered if we believe they are unfair.

There is absolutely no factual basis for blaming the BSE epidemic on Science. This has to do with financial greed, and lack of government regulation and sanitary controls. Science provided diagnostics and alarms without which the disaster could have been even worse. The same is true of the “tainted blood” affair in France when blood contaminated with HIV was injected into patients in the early 1980’s. In this case a government agency gave preference to petty economics and national considerations rather than importing safe (heated) blood which was available in the US. To blame this affair on Science simply does not do justice to its contribution to the fight against AIDS: identifying HIV as the agent and developing within a decade a first generation of effective drugs. The case of Belgian poultry is even more ridiculous. Obviously more for profits than gastronomical reasons, chickens were feed with fat recycled from used frying oils. That someone inadvertently mixed used oil containing dioxin obviously has nothing to do with the Science that might eventually devise ways to minimise dioxin production.

On the other hand, yes, nuclear energy and genetic engineering are direct products of scientific activity. One would like the debates on these topics, in which scientists are taking their full part, to be guided by reason. Recourse to nuclear energy and genetically modified food-stuffs may become inevitable to meet the needs of an increased world population. But then it should be done with caution, which means patience and studies. The rush to introduce nuclear energy some thirty years ago left behind unsolved issues (such as the disposal of long-lived wastes) which must be solved if this form of energy production is to be revived. Similarly, the introduction of genetically modified maize may have been premature (due to the pressure of commercial interests). Many European scientists are urging a moratorium until the consequences (which could be subtle) on the environment and human health are completely appraised. They are strongly backed by public opinion in what might well be an excessive, panicky reaction. Scientists who speak out invoke the “Precautionary Principle” but the question is now reaching world politics: no less an authority than the World Trade Organisation has ruled against Europe’s refusal (based on this Principle) to import US beef fed with growth hormones and antibiotics... A debate on the different scientists’ perceptions on both sides of the Atlantic would certainly be fascinating...

The underlying reason for present anti-science moods is that Science is perceived as the driving force behind the profound societal changes presently taking place. People who fear the consequences of too rapid a change therefore take scientific and technical activity as a convenient scapegoat.

There is no denying that the trend towards consolidation of the world economic system is accelerating, and that Science and Technology (computers, telecommunications etc.) are playing a central role in this. Is this good or evil? Let me just state that in no case can scientists be considered the decisive force in the process in the sense that it is not in our power to stop it: we cannot tell the world to forget about quantum mechanics, the microchip, or the structure of DNA. We can and should speak up about abuses and expand on ethical consequences of technical choices. But in the end, the people will decide, either through politics or as actors in the market.

The irony is that those attacks emphasise our importance, so that in the end, yes Mr. Pinay may have had a point after all... When he was Finance Minister and I was starting my research career it never occurred to me that he thought so highly about what the power of Science was to change the world.

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Representatives of women in science groups across Europe and other bodies committed to improving the gender balance in scientific decision-making have agreed to work together as a ‘network of networks’.

A meeting in Brussels of 70 organizations making up the ‘supernetwork’ issued a joint statement of common goals and objectives. This described the under-representation of women in science as “a serious obstacle for the development of the sciences and for European society”. It called for all institutions that employ scientists to produce annual statistics on gender monitoring, and suggested increased lobbying and advocacy on the need for more women in science at national and European level.

Those attending the meeting – held under the auspices of the European Commission’s research directorate, DGXII – also proposed that the Commission should use the network to document best practice in member states of the European Union. Further support for their joint activities will be sought from the Commission.

Nicole Dewandre, of DGXII’s Women and Science sector, says that the joint declaration is intended to establish the identity of the ‘network of networks’ before it starts “knocking on doors”. One of the goals of the Brussels meeting had been to bring those concerned about gender issues in science into the Commission’s fifth Framework programme of research (FP5). “But we also wanted to ask what, as the Commission, we could bring to them,” says Dewandre.

The Commission has undertaken to make “significant efforts” to increase women’s participation in the Union’s research programmes. The overall objective is to achieve for women at least 40 per cent representation, on average, throughout FP5, including Marie Curie scholarships, advisory groups and assessment panels.

One hope for the meeting is that it will lead to an exchange of experience between the ‘network of networks’ and a separate network of government officials in member states involved in promoting women in scientific research. In the autumn both groups will consider a report on the challenges to women’s participation in European research policy and put forward recommendations. This report is being produced by a group of experts set up last year by the Commission. “There is a growth of awareness of the need for strategic action,” says Dewandre.

The new network has been set up as part of the Commission’s efforts to establish links with Europe’s existing networks of women scientists. The Commission is especially keen to see more female applicants for ‘expert positions’ in advisory groups and assessment panels within FP5. The current figure stands at around 15 per cent.

In a keynote speech, Catherine Jay Didion, executive director of the US Association for Women in Science, showed how the lobbying of politicians can be carried out effectively. The association has been largely responsible for the creation of the Congress-mandated Commission on Women and Minorities in Science and Technology.

For some, the meeting itself was a revelation. “It has changed my life,” says Sue Black of the British Computing Society. “I didn’t know all these women were out there.”

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Philippe Busquin, a 58-year-old socialist from Belgium, has been nominated as the EU’s commissioner for research. As such, he will be in charge of the EU’s 5th Framework programme. Trained as a physicist at the Free University of Brussels, he was a physics lecturer in the medical faculty between 1962 and 1977, when he entered politics. Between 1978 and 1980, he was chairman of the board of directors of the Institute of Radioelements in Belgium.

Other nominations by Romano Prodi, the new European Commission president, include Viviane Reding (a former Luxembourg journalist) as commissioner for education and culture. Education had originally been part of the research portfolio, but Prodi apparently contends that research and technology represents a full portfolio.

Erkki Liikanen (Finland) – the current EU budget commissioner – takes on enterprise and information society.

JLF

Last June, ministers of education from 29 European countries, including all 15 European Union member states, agreed to work towards a Europe-wide framework for higher education that would allow comparison of qualifications and encourage greater student mobility. A recommendation central to the Bologna declaration is the adoption of a two-cycle system. The first cycle would be an undergraduate phase lasting at least three years, leading to a qualification that would be required for entry into the second phase. In addition to encouraging student mobility through
a better credit transfer system, a further aim is to devise a structure that would be understood easily by employers.

Considerable changes have occurred over recent years in several European countries – especially France, Germany, and Italy – in the two-cycle direction, so to some extent, this ministerial declaration reflects changes that are actually taking place.

Perhaps the fact that so many ministers met at one time in one place also suggests that higher education is high on the agenda of the 31 national governments. \textit{JLF}

**EUROPEAN ACCORD ON PHYSICS PUBLISHING**

“The development of physics publishing should above all meet the needs of the physics community” is one of the messages to come from a statement signed by representatives of three of the largest physical societies in Europe. The communiqué argues that the most effective competition with other journals would be ensured by learned societies retaining ownership and control of physics publishing. The three societies (the Deutsche Physikalische Gesellschaft, the UK Institute of Physics, and the Société Française de Physique) have also resolved to explore ways to generate enhanced benefits for the physics community through their publishing activities. \textit{JLF}

**EURESCO CONFERENCES**

In response to Jerzy Langer’s article on the European Science Foundation (ESF) in \textit{EUROSCIENCE} News 8, Professor Cadet, the Director of International Relations of the French CNRS, wrote to update EUROSCIENCE on the funding of European Research Conferences (EURESCO). Whereas previously these were financed from EU resources, this programme is now funded also by the ESF. The ESF member organisations have responded positively to a request to set up a voluntary fund, which this year has reached about 2.8MFF. \textit{JLF}

**EUROSCIENCE WORKING GROUP FOR TECHNOLOGY TRANSFER IN EUROPE**

A main aim of the WG, set up in May 1998, is to design an internet directory of technology transfer staffs, higher education institutions, and public research establishments in Europe. Following an internet survey, a case study of Regional Information Centres in Europe assessed their functionality for technology transfer. Reaching the conclusion that existing networks respond less to the real technology transfer demand, the WG decided to try to form an expert team.

In January 1999, a meeting put together a consortium of experts co-ordinated by Jochen Brinkmann at Informationsdienst Wissenschaft (Information Service Science). Present members of the consortium are the Fraunhofer Gesellschaft (Stuttgart), STP News (Kirchzarten), CERN (Genève), Informationsdienst Wissenschaft (Clausthal) and EUROSCIENCE (Strasbourg). Thanks to the efforts of this consortium, the vision of a European Technology Transfer Directory is moving towards realisation. (Information: contact Jochen Brinkmann, brinkmann@tu-clausthal.de).

The St Petersburg branch of the WG started its activity in December 1998 through the local initiative of Nelly Didenko, with fourteen expert technology transfer consultants coming together. So far the team has organised nine technology transfer meetings in St. Petersburg. Highlights of the team’s activity are the creation of the internet journal TTI linkage, a detailed marketing survey for technology transfer in the north-west Russia region, and the development of a regional technology transfer data-base.

(Information: contact Nelly Didenko, didenko@spas.spb.su).

After six months of preparations, in July 1999 the Kiev branch started its activity with 15 expert technology transfer consultants through the indefatigable efforts of Zinayda Klestova and Alexander Makarenko. The team is presently operating in a very broad field of technology transfer powered by the professional expertise and know-how of its members. Besides frequent meetings in Kiev a joint meeting with the Russian branch was organised on May 25-27, 1999 in St. Petersburg. (Information: contact Zinayda Klestova, briten@carrier.kiev.ua).

The group’s participation through the internet in the fourth Conference of the Parties 1998 in Buenos Aires led to us taking on an international representative role. Between February and May 1999 we were delegated as representatives at two international conferences organised by Volunteers in Technical Assistance on the behalf of respectively the World Bank, and the RAND corporation and INFODEV. The first conference was on Identifying Critical Technologies for Developing Countries, while the second was on International Research Networks. Besides the usual communications in an internet forum of around 500 consultants spread all around the world, nine major articles have been produced by the WG. These are available on the web. (www.vita.org/technet/tec4/tec4arch/ and www.vita.org/technet/im/imarch/).

At both conferences the young EUROSCIENCE team was quickly accepted as a serious and critical source of competence.

Sam Vaseghi (sam.vaseghi@t-online.de)
A Case Study of Serbia

Yugoslavia is not the only country in the world to be put under international sanctions, but it is the first (and hopefully the last) that has met such a fate in Europe. It would be both pretentious and beyond the scope of this report to try to analyse and explain all relevant factors that have lead to the present state of the quasi-isolation of Yugoslavia, in particular of Serbia. Instead we shall concentrate on those aspects which seem to be the most relevant to the position in which science has found itself within a quasi-isolated society. But before we embark on this issue, some more general analysis of the consequences isolation can have on a society seems in order.

Consequences of Isolation

We shall start with an extreme (prehistorical) example, the case of Tasmania. That Australian island was detached from the mainland while it was already populated by humans. Tasmanian society had been mainstream while it was already populated Australian island was detached from the mainland. That is a totally isolated human system. What happens to such a society? A number of changes may be envisaged with reasonable certainty. We enumerate some of the most important transformations here.

The first is a tendency to self-sufficiency. This effect has been seen in some countries in a state of war, and a state under international sanctions is in a state of war in a sense. The second effect is the formation of a particular subdivision of the state structure, which resembles very much the structure of what is called in (mathematical) physics a fractal (self-similar) structure. A third effect is a general retardation of the society, with respect to both the material background and the socioethical overstructure. In fact, the society takes an opposite sense of “development” relative to the rest of the world in many of the most important aspects. In principle, this need not necessarily be the case, but the “steady state” appears most improbable at the “mesocosmic level”, as much as it is in cosmology.

We mention here in passing that such a society can be regarded as a “sociohistorical laboratory”, which enables one to test particular theories, like those Marxist ones. As can be seen in the case of Serbia, Marx appears to be right – the society does retrace the “predetermined evolution”, from the communist to capitalist, then to the feudal state, and finally a number of features characteristic of slavery appear too. As for the political system, we argue that no such clear determination may be fixed up. As we know, some of the present-day isolated states are pure dictatorship cases, but one should not exclude less autocratic regimes, including an anarchic one (i.e. “regime without regime”). This appears the case with present-day Serbia. The point is that this anarchy has a very distinct “structure”, that makes of it a sort of a system in a “mixed state”, where strict control coexists with chaos.

The state of isolation destroys the standard structure of the society, first of all, the economic one. Because of the trend to self-sufficiency, sanctions hit first the most sophisticated economic layers, like electronics, or the most “luxurious” products, like high quality, expensive consumer goods. (This does not imply, however, that these goods are lacking on the market.)

As we go down to the “more substantial branches”, the devastating effects appear less and less pronounced, until one reaches the “most fundamental” layer, that of the agriculture. The (dis)advantage of Serbia is that it has a well-developed agricultural sector, mainly since it has a fertile soil. This has been instrumental in surviving the sanctions. (It is this fact which was behind the famous declaration of Mr Milosevic: “We can stand a thousand years of sanctions!”). Sanctions have to some extent brought Serbia to a XIX-century state, when the country did have a self-sufficiency capability, as the result of the centuries long Turkish occupation, which kept the countryside relying on itself.

Thus from the economical point of view, one could notice an inversion of the “social time arrow”. What happens to science in this context? As one might expect, scientific research shares the same overall fate of the country. What was said for the economy applies, mutatis mutandis, to the science. But before proceeding with this topic, let us first turn to the particular case of Serbia’s isolation. The latter has not been complete – that’s why we call it semi-isolation. There are two reasons for this. First, it is practically impossible to isolate a country totally from the rest of the world (in particular a European one). Secondly, total isolation was not intended when the sanctions were imposed on Yugoslavia. They comprised...
mainly the state, official sectors, exempting thus individuals. The rationale behind this decision was as much logical as illusory. The primary intention was to detach the population from the regime and encourage them to revolt against the autocratic government. At the same time, by imposing the severe economical and fiscal sanctions to an already suffering people it was expected that the oppressive regime would surrender “for the benefit of the people”. These two somewhat opposing rationales have resulted in a vast move of emigration from Serbia, in particular of the most educated and capable people.

The effects on Serbian Science
In the case of science, these effects have devastating consequences. First, most competent researchers have left their laboratories and faculties, leaving behind almost empty laboratories and/or less competent colleagues. As a result, the best scientific projects have been devastated, whereas those with the poorest output have become the most prominent, retaining most of the research staff. This is an expected outcome of another characteristic feature of the general retardation of a society – negative selection. Since it has such severe consequences on the society, we consider this effect in somewhat more detail.

The common feature of almost all states left behind in ex-Yugoslavia is what could be termed a “population inversion”. The most competent and educated citizens are either expelled, “encouraged to leave” the country, marginalised if they remain, etc., whereas the most unscrupulous, as a rule the least creative and educated people, have risen to power and have taken high positions, in all segments of the society. Sociologists call this the destruction of the middle class, the carrier of economic and intellectual development. Unfortunately, it was noticed only by a few people that the conflict leading to the decay of ex-Yugoslavia was not really based on the inter-national (ethnical) animosities, but rather was an outcome of the social conflict between the semirural, mostly highlander population and the urban, civilized counterpart. One has just to read a recent excellent book by P. Rumiz “Maschere per un Massacro” to realize how little we have understood the essence of ex-Yugoslavia conflicts, including the latest one in Kosovo.

Just as in the case of the economics, isolation has hit the scientific population selectively. Fundamental research has been the first target of the overall funding reductions. Those most abstract branches, like philosophy and mathematics (not to mention theology), being mostly theoretical, have been affected the least. On the contrary, experimental and applied science research have suffered the most from the lack of funds and lack of communications with the corresponding scientific communities abroad. The (declared) intentions of the government that these sectors should turn to local resources such as industry have turned out to be vain, since the latter are so poor that they are hardly able to sustain even a minimum of production of standard goods. With unemployment over 25% and a total lack of foreign investment etc., a coupling between science and industry appears illusory indeed.
Corruption has not avoided the scientific establishment and the research and educational institutions. It is not only that the “regime people” have attained positions within the scientific community they do not deserve, but the very institution of awarding of degrees and titles has been compromised (a feudal society aspect). The people close to the “inner circles” of power award themselves academic and/or scientific degrees they are not entitled to. (I do not mean here honorary titles like an honorary member of an academy etc., but titles such as university professor, or scientific adviser).

How much this kind of compromising of the essence of the supposedly meritocratic system affects the motivation to do research and teaching is not hard to appreciate. Coupled with the poor material support and miserable earnings, no wonder that this effect devastates the educational-scientific sector in Serbia.

Sanctions and Scientific Productivity

Although present even before sanctions, the latter, introduced against Yugoslavia in 1992, have accelerated the fall of the scientific productivity. In the figure on the previous page we show the scientific productivities in all republics of ex-Yugoslavia (except Montenegro).

It is an old saying that one picture speaks more than a thousand words, but a few comments are in order here. First, those republics which were the least involved in the intra-Yugoslav conflicts (Slovenia and Macedonia) and which happened to leave Yugoslavia more or less painlessly, have not suffered from the open, military hostilities, at least as far as scientific productivity is concerned. Second, as can be inferred from the figure, the real crisis had started before the military conflicts began (1989 and 1991, respectively). Likewise, the rise of the scientific output in Croatia started again not in 1995, when the region of the so-called Srpska Krajina Republic was regained, but a couple of years earlier. Since one could in all probability plot similar curves concerning economic situations (and other segments relevant to the overall wellbeing of a society), this time lag shows that political moves are dictated by more substantial qualities of a society, like the economical wealth and scientific productivity, rather than vice-versa. It also explains why the Yugoslav political establishment lost all “wars” it was associated with in one way or another, for the last 5 years.

Second, if the curves plotted in the figure are to be used to make any value judgments, one should pay attention to some demographic features within the states involved. Slovenia, and Croatia to a somewhat lesser extent, are “ethnically pure” states. Serbia (better to say ex-Serbia) comprises about 17% of ethnic Albanians and approximately 5% of Romanies (Gypsies), who, due to their enormous demographic growth, have a very young population, and appear scientifically a nonproductive sector. Such a situation is even more pronounced in the case of Macedonia (Skopje), where ethnic Albanians make up almost 40% (excluding the recent refugee influx) and Gypsies 17% of the overall population.

The recent events in Kosovo have greatly aggravated the overall situation in Serbia, and intensified the fleeing out of the most creative and educated people, in particular the young. Serbia has retained its “black hole” position within the European and Balkan community and it remains to be seen what the near future has in store for her citizens, including the scientific and university communities.

Since 1876 there are no longer cannibals in Tasmania.

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FAREWELL AND WELCOME

The Budapest World Conference on Science

At the end of June this year about two thousand people – Nobel-prize winners, science-politicians, leading industrialists, researchers, communicators – gathered in Hungary’s capital, Budapest. Their aim was to summarise and evaluate the great achievements and bitter setbacks, grandiose results and horrible problems created by science – and its direct descendant, technology – in the exiting century. Abundance, comfort on one side, devastation, misery on the other: nuclear energy and nuclear bombs; enormous crops and pollution; extended human lifespan and an over populated world – complementary elements of the same set that had arisen from scientific-technological progress and its results. The vital question to be answered came from these contradictions: what can and what should science do for a better future, a cleaner Earth, a more just-minded, ethical and less populated, more comfortable globe in the 21st century? These thoughts served as background to the three-movement symphony composed by the Forums in the World Conference on Science (WCS):

Forum I – Science: Achievements, Shortcoming and Challenges
Forum II – Science and Society
Forum III – Toward a New Commitment
Each Forum consisted of two parts: plenary sessions for the whole audience, and a number of concurrent thematic meetings. The first two Forums were the preparatory bases for Forum III. Of course, all the events and the outcomes of a large five-day world conference with about 2000 participants cannot be fully evaluated in a brief account. Besides, the time since the Conference is too short for an acceptable perspective on it. Perhaps the list of the thematic meetings of Forums I and II will orient the reader by illustrating the abundance of the interesting and actual themes:

**Forum I**
1. The Nature of Science.
2. The Universal Value of Fundamental Science.
7. Science Education.
9. The Biological Revolution and its Implications for Health.

**Forum II**
1. Public Perception and Science – between Acceptance and Rejection.
2. Science for Development.
7. New Mechanisms for Funding Science.
10. Science and Democracy.

This list of the themes spotlights the novelty of WCS: integration of the two sides of science, interlacing the problems, tasks and methods of natural and social sciences which are very often detached and confronted. Not only were these two sides more or less united, but in a similar way, so also were the different elements of the innovation chain: fundamental and applied sciences, their use in industry, and services were linked to each other. Naturally, we have to mention that a pompous Declaration and a Framework for Action (having being worked on by the organisers for months in advance) were accepted on the final day – mainly for the politicians’ and administrators’ use and not for the public which is totally immune to such utterances.

The makeup of the participants can be regarded as a success. Not only because many national state delegations were present from the U.K. to Saint Lucia, from France to Togo, and also a great number of representatives of intergovernmental and non-governmental organisations, movements, and academies. But because of one official delegation. Oh, yes, it was very important since this delegation came from the U.S. Why should it be considered a success that the biggest scientific power in the world was present in a conference on science? The answer is simple. The U.S. left UNESCO some years ago, having got tired of being permanently outvoted by a majority of “also-ran” tiny countries. Now the big power was attracted back to the WCS mainly because the conference’s co-organiser was the International Council of Scientific Unions (ICSU) – an organisation established in 1931, with a headquarters in Paris, and now composed of 95 multidisciplinary national bodies, research councils, national academies and 25 international scientific unions. Participation of the U.S. at the Budapest conference was a very important result indeed, since the future and science can hardly be imagined in the absence of the leading country in the world.

**WHY WAS IT A SUCCESS THAT THE BIGGEST SCIENTIFIC POWER IN THE WORLD WAS THERE?**

Last but not least some words must be said about the 26 associated international scientific conferences that accompanied WCS. They covered very different topics, from the problems of nuclear waste deposition, through the role of modern biology, to the 2nd European Pharmacology Congress. A good example was the Erdős Pál Conference, held directly after WCS and devoted to the memory of the mathematical genius who died two years ago. About 600 participants – about 50% more than the organisers expected – overfilled the Hungarian Academy’s beautiful big aula during the plenary sessions. Even the simultaneous meetings were so popular that sometimes people sat in the corridors. So it is perhaps not amazing that some people – mainly scientists – think that the real content and success of WCS were determined not by political (or semi-political) delegations, events and declarations, but by these accompanying meetings. Time will decide who was right.
NURTURING THE INFANT VENTURE

This European Science Foundation Workshop on Partnership between Research and Risk Finance was the third of a series (see EUROSCIENCE News 6). It took place in London in May 1999, and was attended by some 50 participants from 12 European countries, Israel and the United States.

Globalization has changed the way we do business. It has affected the structure of industrial oligarchies, led to the specialising of tasks between large companies better equipped to take advantage of market internationalisation, and resulted in considerable reductions in time-to-market. But at a price. A declining ability to handle smaller scale ventures has passed high tech, entrepreneurship to small start-up companies, whose commercial potential depends more on technology and processes than on scientific discoveries. These have to look for narrow, product-oriented niches, rather than for diversified objectives more familiar to scientists. They have a strong proprietary inclination, since patents are important to their success. But human potential is even more important, and calls for new managerial skills.

Successful promotion of start-ups addresses intermediate stages between basic and applied research (for instance those concerned with prototypes), and goes far beyond sensitising scientists to the potential links to industry. It involves hiring managers usually on a temporary basis: the style of management required at the various stages of development is quite variable, making it a promising labour market for interim executives.

Public funding is important. It should however primarily plug gaps not filled by private capital. Public funding also brings returns – starting, in the American view, with taxes collected by successful SMEs, though Europeans seem to prefer sharing equity and income. Public institutions should provide the start-up expertise and the know-how required to sustain companies, advise on financial aspects and industrial objectives in rapidly changing markets, and help identify appropriate management and entrepreneurial capacities.

An increased involvement of European Research Organisations

That start-ups share many common characteristics was well illustrated by case studies. Most rely on initial support for a feasibility period. This 6-12 month seed, or coach, phase can be peer reviewed, and receives average endowments of 50-100,000 Euros. A second round follows, supported by ~400-500,000 Euros for up to 2 years. But sustainability, not initial success, is the key issue of the third phase, when commercialisation is expected to start. Some agencies claim a survival rate of almost 90%, while a 20% rate of prolonged success seems usually considered satisfactory.

Small European investors do not have the innovative image of their American counterparts. Nevertheless, many more successful ventures have been set up in Europe than commonly believed, mostly in biotechnology and software. Europe has over 1000 Biotech companies, a 45% increase in two years – a higher growth rate than in the US. Almost all European countries are involved, although one venture in four is located in the UK, one in six in Germany and one in eight in France. Several research organizations are now taking the lead, and their strategies are becoming more professional. They do not just provide wishful encouragements, but gather the expertise and the funding and act as venture capital managers.

These trends reflect changes induced by globalisation in the way we support science. As know-how is transformed into an asset, technology becomes a major driver for science funding, thus challenging traditions of science publishing, doctoral theses, and the needs of young scientists. Coping with these changes is important for both the European economy and job prospects of young scientists, which depend increasingly upon innovative research. Science is not necessarily less respectable when funded by commerce than by governments. The process however should be kept under control; science-based innovation should not be left entirely to market forces. Letting financial logic become the only common language shared by science and society could prove as deleterious as moving back to an academic science isolated from societal needs.

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