

On activism of European researchers about science policy

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Abstract

The organization and functioning of research have radically changed over the last 10 or 20 years, as a result of a determined political action. The activism of some scientists, during this period, has failed to significantly alter this trend. So far. Today, New Public Management is triumphant. It has been implemented by a category of former scientists who have become administrators, evaluators, organizers. As a result, the prime role of scientific publications is no longer to exchange scientific information but to allow a measure of scientific production, and to rank the principal investigators. Now, the massive use of numerical tools (impact factors, h index), allows policy makers and their collaborators to evaluate publications without reading them. In addition, researchers are told to work in a budgetarily stable system (or even a decreasing one), with internal dynamics that should make it increase exponentially. This has led to the development of precarious jobs. One day, this bubble will explode.

A number of people consider that science is politically neutral, should stay so, and is therefore incompatible with activism. Such a position, shared by a significant fraction of researchers, is based on a confusion between the answer to a scientific question (e.g., “are tides under the influence of the moon?”), and the conditions which determine the production of science, i.e., science policy, which is obviously a political topic. The fact that a number of scientists believe in the possibility of remaining neutral concerning science policy is a serious problem. It may reflect their preference for concentrating on science whilst ignoring the rest of the society (but can ignorance ever be encouraged?), or a discouragement in face of an issue that seems too complex and unavoidable, or the conscience, for some of them, that they have privileges that they wish to keep.

On the contrary, people working in public research with their eyes wide open feel that they have multiple responsibilities: like all scientists, they want to produce valuable knowledge (considered as such by the other scientists), but also to do so in an ethical way, with regards to immediate colleagues and to the rest of the society. These responsibilities are distinct, both require time and effort.

Is the practice of research influenced by science policy and by the activism of a few scientists? A short answer is that the influence of science policy on the practice of research is huge, but that of activism is minute. Let us examine a few examples, taken from biological research, of the influence of science policy on the practise of research.

In the last twenty years, the conditions for doing research in biology have radically changed. One reason is a major forward leap in the power of the instruments used to perform research. What was initially a technical issue has rapidly triggered consequences in science policy. Decision makers¹ have to decide whether such investments were worthy or not, and then to make choices concerning the mode of attribution of financial resources for these expensive instruments, and for paying people to run them. The result now is that scientific publications are used to count and measure scientific production, and rank the principal investigators (PI), with the help of numerical tools (impact factors, h index), *which allow policy makers to evaluate publications without reading them*. In a few years a complete inversion of priorities has taken place. The former priority for a publication was to allow scientific exchange; its use for evaluation was secondary. Now, evaluation is the priority, and scientific exchange becomes secondary. The new format of publications is less and less readable, with huge amounts of supplementary data that are both requested (for the evaluation), but do not concur to the clarity of the message.²

This inversion of priorities is actively pursued by decision makers. The domination of evaluation is based on the abundant use not only of numbers but also of a set of key words, *excellence* being the main one. What is officially wanted now is a *generalised excellence* (an oxymoron), an iceberg reduced to a tip without immersed mass, or a tree with fruits but in which the roots can be neglected.

Another example of a highly disputable choice in science policy may be called the *double order*. One order — which holds true in most European countries — is that the National research funding should be stable or decreasing in a context of economical difficulties. The other order is that a good researcher is a dynamic PI, with many post-docs working for him, allowing him to be the last author in numerous publications. This is absolutely required for getting grants. However, if each PI has many post-docs, and each of these post-docs hopes to become a PI one day, also with many post-docs (in order to survive), the number of scientists should increase exponentially. We are thus told to work in a stable system (or even a decreasing one), with internal dynamics that should make it increase exponentially. This logic has been a strong incentive for the development of precarious jobs with a pyramidal structure: one PI with many post-docs (often with short-term contracts) results in a majority who have no future in research. This leads to a bubble, and bubbles usually end up exploding. This might happen soon. The consequence for the practise of research is stress, tremendous stress. Stress amongst the post-docs who are attempting (and largely failing and becoming disillusioned) to get positions as academic staff. Stress of those who got such positions, to become a respected PI and to stay in the race.

The present difficulties of public research result from the weakness of research funding (which is a political decision), and in the way research Institutes and scientific careers are organised. The functioning of research depends not only on politicians, but on researchers (producers of science), and also to a large extent on

¹In France, the Research Ministry, and structures like the Centre national de la recherche scientifique (CNRS), the Institut national de la santé et de la recherche médicale (INSERM) and the Agence nationale de la recherche (ANR). In other countries, universities.

²Small amounts of supplementary data can be useful to provide experimental details. Huge amount of supplementary data, too long to be read (and this tends to be the new rule) is essentially a way to raise the bar. Instead of being a way of communication, it becomes a tool for eliminating most manuscripts.

an additional intermediate layer of former scientists who have become administrators, evaluators, organizers, networkers etc. . . This new layer plays a key role in the *New Public Management*, which aims to manage research (and other public services such as education or health services) using corporate principles (which revolve around a very marked hierarchy, a focus on a short term return on investment, ceding power to chief operating officer, etc. . .).

In the last twenty years, the practise of research has been heavily influenced by science policy with priority given to: evaluation, the double order (stability of a system built to grow exponentially) and New Public Management of public sector research. The tensions created by this policy have led a minority of scientists to become activists, criticizing these changes. Such reactions have been observed in several European countries. In France, 3 fever peaks when scientists challenged the established order were observed in 2004, 2009 and 2014, under the presidences of Jacques Chirac, Nicolas Sarkozy and François Hollande.^a In addition, there was a first limited attempt to provoke a European reaction at the end of 2014.^b In 2004, the government had to take into account the revolt, and did cancel hundreds of job suppressions that had initially been announced. However, the general trend was not altered, and in 2009 and even in 2014 (despite the very original and popular movement of Sciences en Marche, which organized a one month march of several hundred kilometers on Paris) nothing has been obtained. The New Public Management is victorious and, as very well analyzed by Peter Lawrence in the European webzine Labtimes, "The heart of research is sick" (http://www.labtimes.org/labtimes/issues/lt2011/lt02/lt_2011_02_24_31.pdf). During this period, activism has failed to change policy, but it had to exist. It was a question of dignity.

^aI have given more details on these 3 episodes in a paper for Euroscientist: "Once upon a time, the tale of how French scientists lost their autonomy" (<http://www.euroscientist.com/how-french-scientists-lost-their-autonomy/>).

^b"They have chosen ignorance" (<http://openletter.euroscience.org/open-letter/>), an open letter published in 9 national newspapers in Europe (<http://www.urgence-emploi-scientifique.org/presse>) on october 9, 2014.

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How to cite

Trautmann, A. (2015). 'On activism of European researchers about science policy'. *JCOM* 14 (02), C05.



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ISSN 1824 – 2049. Published by SISSA Medialab. <http://jcom.sissa.it/>.