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## **Research: no funds without announcement**

There are things that become commonplace before they become common sense. The need to re-launch research in Italy, its inescapable value for the economic and civil development of a country, the fear that development not be the best possible, or may even stop altogether, the unanimous preaching in defense of the establishment. The comments and declarations, the agreement and the authority of the unanimous in the political and academic world are such that one could imagine sleeping soundly. Instead, the lamentations about brain drain, about researchers returning to Italy and leaving again, about the young to be funded at any cost (since they are young) and the complaining about the downtrodden meritocracy, wake us from sleep without accompanying us when awake. When we wake up we should recognize some very simple truths that explain why this is happening.

The first is that Italy lacks adequate central structures that define strategic choices in science and technology. These strategic choices are those that identify large sectors (energy, health, electronics) in which the country can aspire to international leadership and upon which the country can generate economic development. While the problems are probably applicable to almost all specific fields of scientific research (Andrea Ichino in *Il sole 24ore*, 12/04/08) in the field of the biomedical research it is so serious as to be immediately visible.

In 2007 the Ministry of Health, recognizing the strategic value of stem cell research, invested 3 (not 300) million euro in special projects of strategic interest that last for 2 (not 20) years. The Ministry has identified those institutions that fall under the Ministry's jurisdiction as the institutional distributor of the funds, instead of the researchers and laboratories that actually work on stem cell research. So, in a country in which 100% of those who work on stem cells are university professors, the universities are excluded from these funds while Zooprofilactic Institutes and the Superior Institute of Health for occupational health and safety are admitted to the funding - though very likely they are not equipped scientifically to carry out the necessary work. In this landscape, top scientists and the height of unproductivity co-exist. But if Athens cries, Sparta doesn't laugh. MIUR has designated over the years a part of the resources for scientific research with the principle of "top-down". This means funding themes chosen by the Ministry, limiting access, competition, originality and scientific freedom and pushing direct negotiation between researchers and Ministry - resulting in an eventual degradation to lobbyism.

The most visible example of the distance between the funding system in the USA and in Italy is surely this one. So, in a country that doesn't operate strategically and limits access to funding and free innovation, the most important choices are left to politics. This leads to very extemporaneous political choices depending on the temporary political orientations and even the staff of the Ministry.

One year stem cells are strategic, the following it will be nanotechnologies, and every strategic strategy (defined by we don't know who and where) will not last more than 3 years. In this way politics (small p) fills the gap where a steady and large-scale scientific Politics should be.

The second is that Italy, in spite of the number of public bodies that distribute money, doesn't have an adequate institution for the administration of science. The CNR that in its conception and interaction with the state structures aspired to be a modern and functional mechanism is near to asphyxiation. Money for research takes at least 22 different routes from government to labs (2 Ministries and 20 regions). Along each of these 22 roads, the rules for allocation of funding change, and change even more with the changing of personnel. This happens because we lack strategic orientation and a common principle. And because we lack a central body responsible for research strategy that represents the whole, national, unique and necessary interface between politics and science.

The third is that in Italy the procedures of anonymous evaluation that guarantee competence and independence are unknown. Too often they are confused and misunderstood with the simple recruitment of anonymous reviewers or with the tool to defend the establishment (as if it was an interest of the government to defend "good science" rather than promoting the best possible science). Peer-review (the anonymous, competitive and independent system of evaluation of science by science) is a system of well-defined procedures and rules that assess the success of science, and guarantee transparency for the public administration.

Rules that forbid the allocation of public funding for biomedical research without a public announcement and in a direct way are urgently needed. The multiplicity of financial sources and administrative authorities make the situation even more complicated. It's urgent to make the rules and procedures more uniform, reduce the number of bodies that fund research, introduce the principles of autonomy and freedom of research and recognize the interest of the government (and not of the researchers) in scientific progress.

Are there politicians up to this task?