

Singing the Praises of Science

The objective of Polish Academy of Sciences publications targeted at influential circles is, of course, to highlight Polish researchers' professionalism and contributions to world science. Yet the successes such articles boast cannot purely stem from the authors' imagination or audacity, or from the editorial staff's inevitable ignorance. Which topics are selected for publication and how they are presented are pivotal issues, since mistakes here can damage the public image of science – upon which funding hinges.

Compromising blunders can most easily be avoided by requiring that the caliber of research be confirmed by previous publication in a high-profile journal. Yet this criterion will not entirely relieve editors of their responsibility, nor ensure that material is palatable for readers. We are all fallible, after all, and have variable skill at presenting our work to the wider world. For a publication that could bear upon the Academy's prestige, one should draw upon professional help and constructive criticism. The editor-in-chief here faces the difficult task of deciding which of many available opinions might be truly helpful. And because the form of such articles is just as crucial as their substance, humble authors should also best let editors render the content and complexity more reader-friendly (only making sure that the chief tenets go undisturbed).

There are various ways to write about science. Many researchers are attracted by a certain "priestly" style, portraying the scientist as a shaman possessing secret knowledge that the audience will never fathom anyway. Such knowledge will allegedly bring prosperity to the country, since research spending and pay are ever on the rise. But there is a certain risk here: firstly, this tone puts science on the same plane as religion, art, and common intellectual gobbledygook, and it is doomed if it has to compete with them. Moreover, unforgiving listeners might inquire, several years down the road, about the economic benefits of increased funding for research they themselves cannot grasp. Answering this will be harder than explaining the whole problem from the outset.

The common-sense method will work better. Every fool knows that the world is complex and hard to understand. Science doesn't have to be stunning in its incomprehensibility – we get paid to unearth the underlying simplicity of phenomena, their internal logic. We should consistently strive to show that understanding does take effort, but lies within our audience's reach. Almost every serious research problem has a mystical aura when first tackled, but later reveals its trivial underpinnings.

A fundamental issue that must be portrayed honestly in promoting scientific knowledge is the relationship between such knowledge and its practical applications. Arguing in favor

of applied research requires that the foreseeable economic and political gains be identified. If we say that research will yield taxpayers immediate benefits, we should explain how the results should be harnessed in a country where almost all companies are in private hands and many are headquartered abroad. Perhaps this is indeed an area where common sense does not suffice: it is hard to persuade Polish taxpayers to support international concerns just because we have neglected to convince the latter to fund research in Poland.

I feel that influential readers can potentially be persuaded that spending on research must be upped, albeit on condition that we clearly specify the widely differing principles in force in the domains of "science" in the widest sense:

1) Basic research (or science "proper") is pursued in order to publicize the results immediately. The point is for the researcher, and the society that supports him or her, to gain moral satisfaction and earn praise for furthering the leading edge of human understanding. If such research finds immediate practical application, this is usually a sign it is trivial or inferior.

2) Applied research, on the other hand, is pursued and funded in order to quickly patent the results or keep them secret from the competition. Such research usually goes unpublished, unless of little economic impact – something ideologically-minded researchers lured into international industry by the high pay find distressing. Their names disappear from scientific

journals, aside from publications on secondary, inessential aspects, bearing the sanction of their concern's executives.

These truisms are voiced only rarely in discussions about research funding in Poland, yet I am convinced that the confusion of these two fields of innovative research – pure science vs. technological applications – is destructive to the reputation of science. It lays the responsibility for the economy's technological underdevelopment with the scientific community, rather than with the real culprits – the business community and state administration. It also undermines the equally important principle of maintaining parametric evaluation of scientific research. Fishing-for-funding might be an entertaining sport for adroit managers, of course, but it deprives overly-conscientious researchers of all the pleasure of doing science.

I am afraid that unless we are in concord on such fundamental issues, even the most clearly published argumentation will not manage to sway influential benefactors of science.



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JERZY DZIK

Institute of Paleobiology
Polish Academy of Sciences
dzik@twarda.pan.pl