What promises are there for 1992?

Wishing for better things is an old habit at this time of the year, but wishing for more money is less worthy (and less likely to be worthwhile) than wishing for tangible success.

In the British tradition, a new year is either an occasion for resolutions that would change personal behaviour (as in "I will henceforth deal courteously even with the most importunate authors") or for unfalsifiable prediction (as in "July: great floods; Prince Charles falls from horse; government grapples with new Sterling crisis"). Sadly, in science, resolutions on personal behaviour (such as "I resolve to find the top quark") cannot count for much, while predictions that cannot be falsified have been made disreputable by Karl Popper. May wishes fill a kind of halfway house? What would most improve the temper of the scientific community in 1992?

The chorus "More money!", even when nonsensically corrupted to "More funding!", is readily evoked, but will not suffice. That does not, of course, imply that there is no substance in the complaints from many parts of the research enterprise of shortages of research support. People in biomedical research in the United States, for example, note with sorrow (or, sometimes, anger) that even the budget of the National Institutes of Health cannot provide personal research grants for more than a proportion of the able people who would have won them in earlier times. (Two years ago, Leon Lederman made the same argument on behalf of research in general.) There may be changes in the federal budget due a month or so from now, but they will be marginal. Nor should it be otherwise when President George Bush's eagerness to 'kick-start' the US economy, and to launch a roseate re-election year, must be tempered by the size of the federal deficit.

In Britain, used for longer to the notion that the administration of science is like the cutting of a wedding-cake, only continued habitual gentility suppresses what should now be the general complaint — that the personal impoverishment of researchers (by means of paltry salaries, but in other ways as well) offends against the public doctrine that "a nation that lives by its brains" must nurture them as well. It will be no bad thing for Britain if 1992 sees protests on this score which are less passive than the soft option of westward migration.

In France, by the magic that even modest continued growth can bring, complaints centre more on administration (of the universities, for example) than on money. Italy's continuing economic miracle (perpetual trouble-free deficit financing) compared with which that of the early 1960s was a flash in the pan, seems also to leave room for doing things for the first time. And while the glumness in some laboratories in western Germany occasioned by the needs of unification with the east will attract some sympathy, most will admire both the ingenuity with which organizations such as the Max-Planck Gesellschaft (traditionally a backer of institutes) have been able to wish good eastern research groups onto still-renascent universities and the Bundesbank's stolid defence of the Deutschmark, the week before Christmas, which seems certain to make eastern Germany as prosperous as anywhere else in Europe within a few years.

Perhaps what the scientific community most needs, in 1992, is a better understanding of the inevitable interaction between the scale of research support and the state of the economy in which it is embedded. There is an inherent weakness in the argument for research, which is a seamless web stretching from higher education to the laboratory bench. Ups and downs in the scale of support, such as those Britain suffered in the early 1980s, destroy the continuity from which productive science flows. Everybody in research knows that.

But because the benefits of research are inevitably long term, governments in a jam (such as that of the new Russian republic) inevitably first think of jettisoning research in the here and now, supposing that they can buy replacements from some shelf when things get better. The danger to the research enterprise is greatest when governments are battling against inflation. In the United States and Britain now, where governments are looking for ways of spending money without rekindling inflation, increasing research support should be at least as deserving a countercyclical candidate as more spending on the construction industry (with which the US government is dickering). Keynes would agree, were he alive.

Japan, as always, is a different case. Belatedly, the government has woken up to the need to strengthen research in the universities just as the US government has appreciated the difficulties of building the Superconducting Super Collider within the constraints of the federal deficit. (Whatever happened to that peace-dividend, some will be asking?) Now it seems (see page 8) that Japan may make a substantial contribution to the cost. One wish for 1992 is that SSC should now be built. Another must be that this unseemly episode should not permanently sour the Japanese community's view of US science.

The case of science in eastern Europe and the former Soviet Union is much more serious. It is inevitable that many people now working as professional researchers will have to turn to other things, either for survival or because their governments (usually their direct employers) have no need of them. This upheaval is being further complicated by preoccupations with the recent past. Does equity require that ex-Party members, once favoured above others, should now run on an outside track? Or even preferentially lose their jobs, merit notwithstanding? It is probably vain to hope that this process will not cause lasting damage.

But there is a chance that something might be done about Europe's research policy, as represented by that of the European Commission (see page 3). Europe's great showdown at Maastricht a month ago seems to have left most things and most policies unchanged. The European Commission seems still wedded to its policy of supporting industrial research involving transnational collaboration even though the single market whose aim is to abolish national frontiers (for all economic and many social purposes) is only a year away. Is it too much to wish that the commission will realize, before too much time has passed, that its chief role should be the support of basic research?

Such wishes may be helped to come true by argument and persuasion, but even if all of them came true, the scientific community would not recover the sense of wellbeing it has enjoyed in even recent decades, the 1970s, for example. That is a more profound reason why mere money (and the perceived shortage thereof) is only part of the story. A few tangible successes would work greater wonders.

If the Hubble Space Telescope had functioned as planned, we might all now be basking in novel contemplation of how the Universe is constructed. Maybe 1992 will settle the issue of the Big Bang, one way or the other. Or questions of gene regulation, already answerable, will be answered simply, to the general enlightenment. All wish-lists will be a little like that, but what would make the greatest difference to the reputation of science and the esteem of its practitioners would be an effective and simple way of treating people with AIDS. Is that too much to ask for?

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