OPINION

lives (and the power sources that drive them) are often sophisticated devices at the leading edge of engineering and technology. Their economic importance, both to manufacturers and users, is immense. It would be no more feasible to dispense with them than with social institutions such as the police, a banking system or an elected legislative assembly. Yet public arguments about the role of the research enterprise are most often cast in terms suggesting that science is not part and parcel of the modern fabric, but rather a kind of elective ideology, on a par with, say, 'communism'.

One of the goals of the campaign of public understanding must be to change these terms of debate. The nature of the problem is neatly illustrated by the way in which even responsible television organizations deal with claims on behalf of 'alternative science'; they give equal time to the orthodox and the unorthodox and, at best, leave it at that. (In this spirit, the contribution of the British Broadcasting Corporation's respected Horizon programme to British Science Week on 20 March was a long filmed worry whether access to the Internet and its successors will be globally equitable.) That habit, which substitutes public confusion for public understanding, is bad enough, but the more serious damage is done when civil servants, consulting on legislation or other actions, also give equal weight to received opinion and its many alternatives. Only plain speaking by ministers and by the scientific community itself will remedy that state of affairs. COPUS may yet have to roll up its sleeves.

But what the experience of the past decade has shown is that the practical purpose of public understanding is to give young people an enthusiasm for science. That is not (or should not be) a surprising discovery. For nearly 20 years, Fermilab in Illinois (where the top quark was confirmed the other day) has been offering high-school students and their teachers a chance to spend Saturdays working on some physics project, explicitly to make up for the poverty of teaching in most US high-schools. The example has now been copied at other national laboratories in the United States, and even by some private corporations. And that, in reality, is what British Science Week seems to aim at.

It is an entirely proper goal. Indeed, given the continuing muddle over the pattern of education in British secondary schools, it is essential. Students wishing to study science at a university are still compelled to demonstrate, while still at school, that they know most of it already (which is a recipe for driving people into other fields). And education ministers continue to insist that this system is 'the jewel' of British education. That is why some means of rescuing able people from accountancy and other such occupations is essential. It is unlikely that British Science Week, patchily spread about the United Kingdom, will suffice to broaden young people's outlook and give them a liking for the notoriously hard grind of university science. A formal evaluation would be interesting. Meanwhile, COPUS might usefully point out that OST's sponsorship of these events is really intended to make up for the failings of the Department for Education, and that root and branch reform of the interface between schools and universities would be more effective. [7

Glaxo and Wellcome

The latest pharmaceutical merger is necessarily a risk but is also an opportunity.

LARGE and successful pharmaceutical companies do not command sympathy in the ordinary sense, but their managers are no doubt acutely aware of one certainty in their working lives: the mistakes they make will be big mistakes, financially and otherwise. Sadly, at least for those with insomniac tendencies, there is another perennial truth: caution marks out the road to failure. Not to invest in the search for innovative drugs is suicidal. With the pattern of health care in many parts of the world changing to allow for direct negotiation between insurers (standing proxy for potential patients) and the providers of health care (hospitals and physicians), there are also temptations to what, in other fields, would be called vertical integration. The drug company as the comprehensive provider of health care is not entirely a fanciful concept.

That is the background to the purchase by the British drug company Glaxo of the Wellcome Foundation (not to be confused with the Wellcome Trust, which is a charity). The purchase price, a cool £9.3 billion, is one measure of the magnitude of the risk. Another, less tangible, is that the two companies have very different styles. Glaxo has grown quickly and not always smoothly over the past quarter of a century. Wellcome by contrast has been more staid, perhaps by being shielded from the rigours of full-blooded competition by the circumstance that its sole shareholder until a few years ago was the Wellcome Trust. Making the best of the two groups of people will be a challenge.

Since the possibility of a merger was first announced, there has been endless speculation about the end result, but it is probably beside the point. True, Wellcome is best known for its antiviral compounds (of which AZT is one), Glaxo for its treatment for stomach ulcers. But it is impossible for outsiders to guess meaningfully at the long-term pattern of the merged company's research. Indeed, Glaxo is fond of boasting that its research pattern is as catholic as it could be, citing its basic-research laboratory at Geneva as proof. Glaxo–Wellcome, which seems not for now to be tempted towards vertical integration, should be large enough to cover a broad portfolio of research projects.

But in the modern search for new drugs, the opportunities expand faster than the companies can grow. The various human genome projects will spawn endless opportunities, for example, but only labour-intensively. Identifying a gene is one thing, but telling its function or functions is at least one and perhaps several orders of magnitude more difficult. That is why the House of Commons the other week (see *Nature* **374**, 6; 1995) should not have been alarmed that the merger will reduce research employment. With luck, the trend could go the other way. The best arrangement would be a network of small research companies each working on a hunch and a handful of genes. Many of them, of course, would be academic departments.