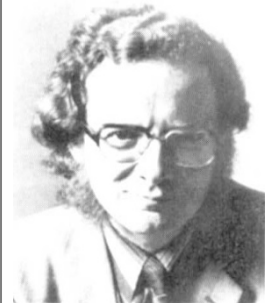


/ COMMENTARY

by Bernard Dixon

NOBEL LAURELS AND LAGGARD INDUSTRY



Announcement of a Nobel Prize to Cesar Milstein and Georges Koehler for devising monoclonal antibodies must have stirred up more diverse nationalistic sentiments last fall than any other Nobel award for some considerable time. When (together with the Dane Niels Jerne) they received this ultimate scientific honor, there were signs of soul-searching across three countries. The del-

ight of West German scientists in the achievement of Munich-born Koehler was tempered by regrets: as the tally of Nobel laureates from that proud nation has dwindled, these few recipients have increasingly carried out their momentous research abroad—in this case at the Laboratory of Molecular Biology in Cambridge, England. Argentina, too, experienced a mixture of pride and regretfulness. Although Milstein graduated from the University of Buenos Aires and returned to head the National Institute of Microbiology there in 1961 following a spell in Great Britain, he resigned two years later when four of his staff were sacked for belonging to a trade union. He too decided to settle at the molecular biologists' Mecca in Cambridge.

But British sentiments were also confused. As well as diverting headlines away from the country's wretchedly damaging miner's strike for a day or two, the accolade from Stockholm renewed public anxieties that although the U.K. continues to receive Nobel prizes at a rate disproportionate to its population size, anticipated economic benefits usually fail to accrue. On this occasion, the financial press enjoyed a field day, reminding readers that the government had declined to patent Milstein and Koehler's work—the result of which, together with a prediction of its medical and industrial applications, appeared in *Nature* on 7 August 1975. Given that Britain's much earlier failure to secure patent protection for penicillin long since became part of the national folk memory, this equally dramatic omission provoked accusations of scandalous ineptitude.

Milstein himself insists that the secrecy necessary during patenting would have been "an outrageous insult to science." Yet the National Research and Development Corporation (NRDC) has been heavily and retrospectively criticized for not safeguarding this potentially enormous asset even after its great economic potential had become clear. Now part of the British Technology Group, the NRDC argues that U.K. law would not have permitted the patenting of a discovery after publication, as is possible in the U.S.A. Other commentators believe that Milstein and Koehler's original outline of the principle behind monoclonals could not have been patented anyway, and that millions of pounds of further investment would have been necessary to demonstrate their commercial significance—though these claims are hotly contested. Whatever the truth (and there has been plenty of room for argument about the patentability of such products and processes

over the last decade), last October's announcement certainly meant that anguish in West Germany and Argentina was echoed in the United Kingdom.

But what of the future? After two arguably disastrous errors, has the British biotechnology establishment now got its act together? One possibly instructive example is that of the Agricultural Genetics Company (AGC), set up in 1983 to commercialize work emerging from institutes belonging to the government-funded Agricultural and Food Research Council (AFRC). The AGC announced recently that it is planning to expand and is raising up to \$18.4 million from industry, institutional investors, and existing shareholders such as the British Technology Group. And this has brought to a head complaints that have been simmering since the Company was first formed. For example, the director of the John Innes Institute, Harold Woolhouse, has attacked the arrangement by which the AGC enjoys first refusal on any commercially promising idea put up by any scientist in any AFRC establishment—and can take up to six months in deciding whether to exercise that option. Professor Woolhouse believes this special relationship has discouraged alternative industrial partners such as ICI, who are not willing to wait for the AGC to make up its mind.

A second cause of annoyance among some senior staff at AFRC institutes is that, despite grandiose expansion plans, the AGC has no intention of building any laboratories. Its plans to continue to exploit the labors of the 1600 research council staff around the country. While everyone wishes to see British agricultural science prosper, therefore, it is not uncommon to hear thinly-veiled suspicions that the relationship between the two bodies verges on the parasitic. Such semi-public squabbles and discontents are not a happy augury for an arrangement which is supposed to propel Britain into international pre-eminence in this sector of biotechnology.

Maybe the answer can be found in a somewhat looser coupling, of the type which now obtains between the Medical Research Council and Celltech Ltd. Founded in 1980, Celltech initially had exclusive command over MRC work in areas such as recombinant DNA and cell fusion, but this has since been modified. A five-year agreement now in operation gives the company exclusivity to develop and market discoveries when Celltech has directly financed the research, and first option rights where the company "has been or will soon be active in commercializing MRC work." In other areas, "the good relationship between the two organizations is expected to produce continued collaboration." In other words, the partners enjoy a particularly friendly proximity, but each is free to become involved in joint ventures elsewhere.

If, as seems likely, agriculture proves to be the domain which sees the next major advance in biotechnology, Britain's past expertise and present programs could ensure its world leadership. But a more generously cooperative spirit will be essential if that is to happen—now, not later.

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