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Eleventh hour for biotechnology in Britain

WHETHER or not the National Enterprise Board decides to, or is allowed to, set up a biotechnology company, the Spinks report published last week was right to have suggested that the Board consider the possibility (see page 502). There is little doubt that Britain has long been in need of companies prepared to risk investment in biotechnology. The only question now is whether it is too late.

As far back as 1975 it was obvious to a certain number of UK scientists that there was considerable commercial potential in new techniques emerging from molecular and cellular biology. In particular it was recognized that the technique of recombinant DNA might be used to harness bacterial and other cells to the production of pharmaceutically active polypeptides. Gene manipulation was also seen to have much to offer in the improvement of strains of microorganisms employed in fermentation and waste disposal. Bacterially cloned genes could also be foreseen as valuable in the diagnosis and therapy of congenital diseases. Equally there was early, if limited, recognition of the commercial potential of hybridoma cells which produce single antibodies — which are of considerable value in radioimmunoassays and other medical diagnostic techniques.

It was with some chagrin that scientists in Britain, including those responsible for some of the key discoveries, watched entrepreneurs in the US start up a series of small venture capital businesses aimed to cash in on the new techniques, whereas nothing equivalent emerged in the UK. It still has not.

Nor, with a few exceptions, have established UK industries been quick off the mark to exploit the new techniques. Most companies have seemed content to bide their time rather than to fund research that may have looked promising but whose value would not be proven without long term investment. In the event, progress abroad has been much faster than was anticipated. Although real fortunes, as opposed to paper ones, are not yet being made from the new biotechnology, there can be no doubt that they will be. And yet there is still a distinct lack of interest from UK industry.

With neither established nor new companies to fund and benefit from UK scientific expertise, universities and organisations such as the Medical Research Council and the Agricultural Research Council find it difficult to exploit commercially the discoveries of their scientists. Could their requirements be met by a publically financed company?

Any such proposal will meet three hurdles. The first is time; is it too late to set up such a company? Here the answer must be a qualified no. It is probably too late to think in terms of producing hormones and vaccines by means of genetically-manipulated bacteria; those are first generation applications already far advanced. But there is no shortage of second generation applica-

tions, particularly those involving fungal, mammalian and plant cells, with which a newly formed company might hope to leapfrog the early starters.

The second hurdle is manpower. While British industry and entrepreneurs have been dallying, many of the academic scientists have become involved with US-based, or US-financed, venture capital companies. Other British scientists have resisted all approaches and will probably continue to do so. It is therefore dangerously late to be recruiting scientists to the cause. Nevertheless there does appear to remain sufficient untapped expertise, particularly in the laboratories of those research councils most keen to see a company founded, to make the project worth pursuing.

The third hurdle is the Conservative government which, particularly with its present leaders, strongly favours private over public enterprise. But faced with a demand unfulfilled by the private sector no government should stand endlessly on principle.

If all three hurdles can be jumped, there remains the question of how best to set up a public company. The obvious way, as recommended in the Spinks report, is through the National Enterprise Board (NEB) and/or the National Research Development Corporation (NRDC). Although the NRDC already has some expertise and experience in the patenting and licencing of biotechnological processes, there are drawbacks to its further involvement. In the first place whereas it commonly gives a half share of royalties to any university from which a patented discovery has emerged, it is constitutionally unable to pass royalties back to research council laboratories. Secondly it is willing only to fund research with a clear commercial potential. Thirdly, and despite its having taken out such important patents as those on cephalosporins and interferon (unfortunately time-expired except in the US, where it runs until 1989), the NRDC has not consistently spotted the winners. One glaring mistake is its 1975 decision that hybridomas had no obvious commercial applications.

Given the drawbacks of the NRDC, there is a good case for the NEB to found a biotechnology company. The chief attraction of this proposal is simply that a new company, devoted to a relatively narrow venture, would be able to avoid most of the problems associated with the NRDC. Clearly the success of such a company would hinge crucially on the calibre of its staff, their ability to pick areas in which they could mount an effective challenge to those companies already in the business, and the degree to which productive links could be built and maintained with academic scientists.

None of this will be easy. It will become even less easy as time passes. Therefore if, as we believe, the NEB should start a biotechnology company in the UK it should do so now. □