
Introductory Remarks

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Introductory remarks

BY B. S. HARTLEY, F.R.S.

The Royal Society has been keen for some time to hold a Discussion Meeting on this topic. When Dr Brenner and I were first approached to organize it, we realized immediately that the meeting would have little impact unless there was a significant contribution from both academia and industry. Dr Rodgers agreed to help us shape the meeting to its present form, and I trust that this small example of collaboration between university and industrial scientists will augur great things for the subject we are about to discuss.

There was some unavoidable delay in scheduling the meeting, but I do not feel that the delay will have done any harm. Even as little as two years ago, there would have been a considerable body of sceptics about the early prospects for great advances in industrial microbiology. True, it was then apparent that the new technology of genetic engineering might allow a vast range of new products to be made by microorganisms. But there was fierce controversy over the conjectural hazards posed by microorganisms constructed by *in vitro* recombinant DNA techniques, and 'wait and see' was the cautious response of most company directors, based on a reasonable expectation that big scientific advances take several years to achieve an impact on industrial processes. It is now abundantly clear that the hazards involved in genetic engineering have been grossly overestimated, and that the technology is progressing so rapidly that many industrial applications can be envisaged immediately.

Moreover, two years ago one would have had broad agreement that fermentation products might, one day, offer serious competition to petrochemicals as industrial feedstocks, but weighty surveys tended to forecast that this position was still some way off. The climate of opinion in the summer of 1979 is clearly different: a small but unexpected drop in the ever-expanding supply of oil has triggered an urgent realization that the world must quickly pay more attention to getting better value from its renewable resources.

Hence the subject of our Discussion is burningly relevant. Seldom do such dramatic changes in technology and such rapid shifts in commercial certitudes coincide. A third factor that ought to encourage our imagination is the change in political climate that has been catalysed by the oil crisis. In Britain, we are now told that enterprise and innovation are the key to our national regeneration; much of the raw material for such a leap forward in biotechnology is present at this meeting.

Let us therefore try to identify these new horizons in industrial microbiology, and try to assess the changes needed to bring them closer. Our speakers have agreed to try to look into their personal crystal balls rather than recapitulate the obvious or the established. We are grateful for this, because there is some risk in so doing of appearing to be naive or foolish after the event. In return, we hope that our audience will participate frankly and openly, despite the obvious temptation to be discreet about matters of potential commercial value. The Royal Society was founded to encourage free exchange of scientific knowledge; this is surely the occasion to try to break a few commercial taboos.

To play my own part in this, I would like to deplore the poor communications that have

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existed between academic and industrial scientists in this country. In universities and government research institutes there is still an attitude that looks down on the exploitation of science for profit, and a sublime ignorance about the discipline required to achieve this. Conversely, the industrial scientist tends to use confidentiality as a cloak for ignorance, and the 'not invented here' syndrome seems to operate in many British companies to shield their staff from creative criticism. Much will have to be done to heal this rift; I hope that meetings like this will help.