Science Parks and The Growth of High Technology Firms *by C.S.P. Monck, R.B. Porter, P.R. Quintas, D.J. Storey, P. Wynarczyk.*
(Croom Helm, London, 1988), pp. 270. ISBN 0-7099-5441-7 £35.

I have been critical of the development of science parks in Britain in the past. It was, therefore, a surprise to be asked to review this book on science parks and the growth of high technology firms. Was the invitation, I wonder, an open invitation for me to deliver more of my views, or was it an attempt to see if I had been misrepresented in the past or, indeed, whether it was an attempt to find out if I had changed my mind?

My comments in 1985 at an EEC conference in Berlin generated such headlines as "Science Parks Have Failed" and "Doubts About Venture Parks" in the *Financial Times* and *The Times* respectively. Such headlines exaggerated the content of the press reports and quoted what I said in my lecture out of context. But is that not always the case? I had said that science parks are not significant generators of jobs and that there was little evidence in 1985, to suggest that "the embryonic park companies will eventually move out and establish factories employing substantial numbers of workers". I had, however, tempered this comment by asking if it was not too early to scrutinise the employment question. Further, I bemoaned the fact that academics were not falling over themselves to set up new enterprises on university based science parks while investment companies, I said, were "seemingly too conservative in their support of high technology entrepeneurs". Finally, I asked about the future. I said, "Are science parks going to play a significant role in any future period of economic growth? If so, their influence on both academia and industry will be vital in the exploitation of new technological knowledge. Should all the proposed plans for academic-based science parks achieve viability, the UK could well rival the US in science park activity. Much depends on the wisdom of academics, the will of industry and the wit of investors".

The book by Charles Monck and his colleagues, though published in 1988, was completed some 12-18 months after the Berlin conference. What happened in the meantime? Is there evidence in the book to show that science parks are generators of employment, that academics are becoming more and more inclined to become involved in running companies on science parks and, indeed, that some companies are moving out to development areas to found significant commercial ventures?

Not surprisingly, there is precious little evidence presented to show that matters had improved between 1985 and 1986. The book states that it is surprising that private sector investment has been conspicuously absent from science park investments and adds that there is little convincing evidence to show that young technologically based firms which are based on or near university campuses have any advantage over similar firms based elsewhere. Be that as it may, the book is a comprehensive document of the state of affairs in 1986. Sadly, in a field which is moving so fast the situation in 1988 is very different, and although this publication serves as a snapshot of the development of science parks in 1986, it was produced too early to provide much evidence on the success or otherwise of such ventures. In fact, the book was compiled and written some five or ten years before it would have been worth while to do so. With the notable exception of the Cambridge and Herriot-Watt Science Parks, most other parks

did not get into their stride until the mid 1980s. It will be early enough to assess their development in the mid 1990s for, by then, much of the razzamataz and hype associated with science parks will have passed; they will have been in existence for a considerable number of years and it will be possible to assess their performance cooly and objectively.

Science Parks and The Growth of High Technology Firms is in three parts. The first part which takes up some 30 per cent of the book serves as an introduction to the relationship between science, technology and economic progress together with a brief history of the relationship of new technology-based firms with the universities, leading to a description of the evolution of science parks. While the description of how economic development arises from technology and science is commendably short it is, however, naive in parts. The evolution of science parks however, is one of the best accounts which I have read and it is only to be hoped that as time progresses the authors will be keeping a watching eye on developments to produce an up-to-date version when appropriate.

The main part of the book is devoted to a survey of high technology firms, including two significant chapters on their technological characteristics and a further chapter on the management and financing of high technology firms. These chapters are more in tune with the expertise of the authors than the earlier section, and they are first rate, state of the art (as of 1986) expositions. Finally, the authors describe the problem of the added value of science parks and the implications which science parks have for policy, both national and regional. On the relationship between the science park and the neighbourhood higher educational institute (usually a university) the authors point out that there is evidence that informal relationships have evolved between the parties and that the companies are making increasing use of facilities within the universities. But there is no ambiguous evidence, say the authors, that location on a science park has increased the formal relationship between the institute and the company. The authors state that there is little doubt that science parks have made a promising and useful contribution to economic development in the United Kingdom. But, the contribution is to be qualified say the authors. They go on to show that the investigations reported in the book demonstrate the promise which science parks provide, and highlight the importance of new technology-based firms. Rather simplistically they go on to hope "that governments will adequately resource" developments such as science parks. In this day and age this, I think, is a vain hope and new technology firms on science parks will have to survive, as other companies survive without any special privileges.

It is always dangerous to publish a book by the normal commercial process on a fast moving subject. The information could be out of date, the opinions stated *passé*, and the analyses superficial. This is what has happened to this book. A good team clearly produced a good report which filled a necessary purpose in 1986. It was not a good idea to process it into a book. One can only hope though, that this investigative exercise can be repeated in about four or five years' time when it will be well worthwhile studying the development and growth of companies based in science parks which were established in the early 1980s or earlier.

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