

(see page 744). Political antagonism towards molecular biology and genetics during the 1980s and early 1990s created an employment vacuum for German molecular biologists. Biotechnology research and development was hamstrung by regulations, so scientists wishing to pursue careers in molecular biology had to move elsewhere.

After a long delay, German biotechnology is now establishing itself. The first biology start-up companies are confident they will succeed as they cherry-pick the best of German science both at home and abroad. "From a scientific point of view, the quality of scientists that can be hired is absolutely outstanding. In the German system people qualifying with PhDs at 28, 29 and 30 are much older than they are in the United Kingdom. They tend to be more mature and have a broader knowledge base," says Simon Moroney, the New Zealand-born chief executive officer of MorphoSys, the Munich-based combinatorial biology concern.

MorphoSys is going through a substantial growth spurt. It currently employs 20 people and plans to double in size by the end of 1997. "The sort of people we are looking to hire are scientists with a specific set of skills. It is much better to start with a very strong set of specific skills and broaden them later than start with a broad set and try to make them expert in one area. So we are looking for qualified molecular biologists, structural biologists, cell biologists, yeast geneticists and the like," adds Moroney. As for many other biotechnology companies, there is no attraction in recruiting graduates of the so-called biotechnology courses that were constructed in the late 1980s when universities saw what they believed would be an opportunity to attract new students.

MorphoSys is venturing into the new discipline of functional genomics — the attempt to assign the functional activity of a gene product to a sequenced gene as rapidly as possible — and is therefore looking to hire more people with a genomics background. "Such people are often geneticists that have specialized in one organism such as yeast, certain bacteria or mammalian systems, who also have the ability to take a screening technology and apply it." Most of the staff MorphoSys has employed are post-docs who have spent some time in the United States.

Recruiting homesick scientists is likely to be a major activity for many German biotechnology companies. Peter Heinrich, chief executive officer of MediGene, a Munich-based gene-therapeutic company, is finding the expatriate community an excellent source of new recruits as his company intends to grow from the current 26 employees to 40 by the end of next year. "Many excellent PhDs had to emigrate to the United States because of the lack of suitable positions in Germany. That situation is now changing and we want to attract them back," he explains. However, he adds, the door is not closed to other nationalities. "Earlier

this summer we had more than 100 applications in response to an advertisement in *Nature* for one position. The successful applicant was a Chinese postdoc who fulfilled all our requirements."

Molecular biologists hoping to walk into jobs with huge salaries and perks such as company cars need not look to the biotechnology sector. It is apparent that the entrepreneurs behind the new companies are looking for like-minded individuals. "We are not looking at candidates who are seeking secure jobs for the next 30 years and a fat salary. We want candidates who are entre-

preneurial, who have an understanding of what is involved and who are prepared to take a lower starting salary and share options," notes an executive at one UK biological science company.

Indeed, with so many skilled individuals seeking positions in these fast-growing technology-rich companies, executives can focus on other qualities in their recruiting. One crucial quality all biotechnology companies are looking for in potential recruits, as to a certain extent are multinationals, is the ability to be a team player. "That is a quality that can be hard to find sometimes in ►

Here come tomorrow's millionaires

London. Employment prospects for graduates in the life sciences are booming — and are likely to continue to do so for at least the next decade — says John Fulford, chairman of the Cambridge-based employment consultants Euromedica. "In terms of diversity of opportunity, we've never seen anything like it before."

According to Fulford, this is particularly true for those trained in molecular biology and related fields, as pharmaceutical companies turn towards 'rational' drug design, while the biotechnology industry, for which his company acts as a recruitment adviser, continues to expand at a rapid rate.

At the same time, says Fulford, the skills and aptitudes required of the modern life sciences graduate go far beyond those traditionally learnt at the laboratory bench. A key characteristic, for example, will be flexibility.

Part of this flexibility will lie in a willingness to move between regions, countries, and if necessary continents in search of opportunities. "Twenty or thirty years ago, a young graduate from, say, Manchester University would be loath to move far away," says Fulford. Today, in contrast, "one has to look at the global market place".

The converse is that, even in his or her home country, the life science graduate will face increasing competition from abroad. "Overall, we are going to see a shortage of skilled life scientists relative to the rapidly expanding global need. India, for example, is a marvellous repository of brilliant life scientists, and the Manchester graduate is going to be competing with young graduates from Bangalore."

Already the development of the biotechnology industry on a global scale is being affected by different national attitudes towards mobility. "British scientists and executives, for example, are about five times more mobile in their approach to employment than the average 'continental'," he says, suggesting that this may be linked to the historical tradition of working within the British Empire.

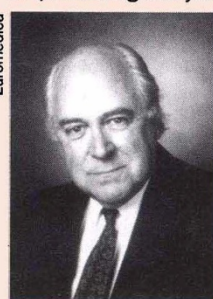
Adaptability will also apply to the choice of industry in which to work, given that, although there will be plenty of jobs, they may be in unusual fields. "A molecular biology graduate might consider the leisure industry to be the last area offering job opportunities," he says. "But a graduate from, say, the University of Bristol with a biology degree might become a specialist tour guide in Costa Rica."

A further skill that any graduate entering the biotech industry will require is communi-

cation. "This covers an ability to verbalize, to present thoughts in a logical manner, to listen, and to use modern technology to the maximum," says Fulford. Time spent on developing this skill — perhaps through a formal course — is time well spent.

Even the nature of jobs in the traditional pharmaceutical and healthcare sectors is likely to change dramatically. Both sectors, says Fulford, will continue to employ large numbers of graduates, but not necessarily in the traditional way. Many will no longer be employed by larger companies directly, but by smaller companies providing specialist services.

"Outsourcing is only just starting," he says. "A senior executive in the pharmaceutical industry told me recently that his company is questioning everything within its operation.



Fulford: flexibility is the key to success.

Are we the best people to manufacture our pills? Or to do our own research? Everything is subject to question."

This trend will shape the job market. Small 'start-up' companies will provide growing opportunities but, in contrast to the large pharmaceutical companies, will be looking primarily for specialist skills. "There is no room for the scientific generalist in these companies."

Again, flexibility is at a premium — particularly the ability to move between the lab bench, the accountant's office and the boardroom. "We have a great difficulty finding scientists who can move into commercial roles," says Fulford. Furthermore, he points out, moving into a small biotech company means working in "a highly insecure environment".

Yet the rewards, too, are potentially high. "People normally take the risk partly for the thrill and partly for the money," says Fulford, suggesting that even graduate recruits "should have the possibility of obtaining shares by six to 12 months of starting work". In particular, he points out, anyone joining a biotech company at an early stage has a great chance of doing well out of it. "Britain probably has more than 1,000 'biotechnology millionaires' — on paper, at least."

David Dickson