

take the initiative in organizing the input of data into the main gene-mapping database — the Genome Database (GDB) run from Johns Hopkins. Until now, the 'consensus' mapping data in GDB have been agreed and entered into the database, at the hectic Human Gene Mapping Workshops, held every couple of years. But the volume of data is becoming too large to be handled at a single meeting, and consensus maps for each chromosome will in future be updated at HUGO-sponsored Single Chromosome Workshops, 18 of which are planned for 1992. Once a year, representatives of the teams working on each chromosome will get together to discuss their common problems.

Unfortunately, when HUGO luminaries including Cantor, Bodmer and McKusick outlined the plan to the genome community at the London Human Gene Mapping Workshop in August, many researchers reacted angrily. HUGO offi-

cialists in London play down the difficulty as a breakdown in communication: many people assumed that the new meetings would exclude most 'grass roots' genome researchers. In fact, the large biennial meetings will continue (without the time-consuming debates over consensus mapping data, and renamed as Human Genome Mapping Workshops), providing an opportunity for the diverse genome community to get together. This public relations blunder was an inauspicious start to HUGO's new role in gene mapping. The success of the HUGO-sponsored meetings is seen as a litmus test of the organization's ability ever to have an effect on the international coordination of the genome project, and Cantor is depending on a more polished performance in 1992. "The success of HUGO depends on these meetings," he says. "They have to work."

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BRITISH RESEARCH FUNDING

Universities face changes

London

BRITISH science leaves 1991 in a more cheerful state than it entered. A year ago, the UK research councils were busy counting pennies, realizing that their funding from government would not keep pace with inflation. The largest of the five, the Science and Engineering Research Council (SERC), which had banked on a much larger budget, was forced to review its whole programme and award only about half the new research grants it had planned. But the research councils' allocations for 1992-93, announced just before Christmas (see table), should allow for a small amount of growth. Even the Agricultural and Food Research Council, which declared a financial emergency in October after the collapse of the UK property market wrecked its plans to sell £7 million worth of empty laboratory buildings, has been given a special £5.7 million 'loan' to ease its cash flow.

With a general election due by the summer, the government's increased generosity is not so surprising. But Britain's researchers should not expect an uneventful 1992, which will see changes in the funding of university research that will dwarf the fallout from last year's research council funding hiccup. The Universities Funding Council (UFC), which distributes nearly £700 million a year of public money to support research (more than twice the amount spent in the universities by the research councils), plans this year to revamp its mechanism for dividing its research budget among the universities. The result will be that money becomes concentrated in the few UK universities that have an outstanding reputation for research; those that can boast little in the

way of research excellence may find themselves suddenly short of funds.

At present, some 40 per cent of the UFC's research funding is distributed simply according to student numbers — universities with more students get more money, irrespective of the quality of the research in their departments. The UFC has been gradually moving towards funding criteria that take a greater stock of the quality of university research, but the government's plans to abolish the distinction between universities and polytechnics in time for the 1993 student entry have forced more rapid progress.

1992-93 budgets for the UK research councils (£million):

Agricultural and Food	107.3	(+8.6%)
Economic and Social	45.1	(+14.3%)
Medical	227.6	(+8.4%)
Natural Environment	129.7	(+2.5%)
Science and Engineering	520.8	(+8.8%)

Figures in brackets give the percentage increase in cash terms from 1991-92 excluding the £47.7 million transferred to the research councils from the UFC.

If the new funding councils that are to fund both the universities and the polytechnics simply adopted the UFC's old funding mechanism, the result would be a sudden redirection of research funds away from the universities and into the polytechnics, which have students galore. (The UFC's counterpart, the Polytechnics and Colleges Funding Council, now spends only several tens of millions of pounds each year on research.) As the government has said that it is not prepared to see this happen, the distribution of research money according to student numbers must end, and to smooth the transition, the UFC

is moving swiftly to bring this about.

UFC officials cannot yet say exactly how the council's 1992-93 research budget will be divided among the universities — the final decision has not yet been taken. But they are confident that the largest factor in deciding each university's allocation will be the UFC's assessment of the quality of research in British university departments, a formidable exercise in peer review that was last attempted in 1989, and will be repeated this year.

The concentration of funding in Britain's leading research universities will be compounded this year by the transfer of some £50 million of UFC money to the research councils, which already direct the majority of their research grants to a select few institutions. (Ten British universities — Birmingham, Cambridge, Edinburgh, Glasgow, Imperial College London, Leeds, Manchester, Oxford, Southampton and University College London — win more than half SERC's university research grants.) This transfer is designed to cover some of the indirect costs of university projects funded by the research councils, and by 1994-95 will be followed by a further £100 million a year that now comes under UFC's budget.

For a fortunate few universities, the changes beginning in 1992 will be welcome. But those with a patchier research record can expect a painful transition. Squeezed from above by the emerging university 'super league', and from below by the polytechnics that wish to claim a slice of the research pie, several university vice-chancellors will face a difficult dilemma over the next few years: whether to divide their shrinking research budget evenly among their departments, or to follow the national trend and penalize weak departments to ensure that research in the strongest is not undermined. The former might minimize faculty protest, but would carry a long-term penalty — any university that takes research money from its best departments to subsidize the rest would soon slip down the UFC's table of research excellence and receive still less money the next time around.

The present turn of events should bring a wry smile to the face of Sir David Phillips, chairman of the Advisory Board for the Research Councils (ABRC). In 1987, the ABRC published its *Strategy for the Science Base*, which proposed that only the best research universities should support a full research programme and said that many UK universities should become teaching-only institutions. After howls of protest from the universities, the government dropped its initial support for the idea. But with the present changes in university funding leading in the much same direction, the ABRC's follow-up to its 1987 document, due to be published in April this year, should make interesting reading.

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