University of London

Is big more beautiful?

WHAT could be the biggest upheaval yet in the University of London was signalled last week, when the governing bodies of three constituent colleges of the university, Chelsea College, King's College and Queen Elizabeth College, finally agreed on a formal merger. Even with the reduced numbers of students decreed by the university, the merged college may have close on 6,000 students, excluding some 700 clinical students at King's College Medical School.

With other amalgamations and dismemberments already under way, the upshot of the intended merger will be that the University of London will have contracted from a dozen undergraduate teaching establishments two years ago to five predominant establishments — University College (still the largest with more than 6,000 students and with growing hegemony over Birkbeck College), Imperial College, Queen Mary College (in east London), the amalgam of Bedford College and Royal Holloway College deep in rural Surrey and the now-proposed tripartite merger. In the circumstances, it is not surprising that many senior academics are asking whether the federal university itself will continue to be necessary.

Many of the details of the merger centred on King's College have still to be worked out. The next step will be a binding legal commitment by the three colleges to work

in concert. A unified constitution will be possible, however, only after the passage of a private Act of Parliament and is unlikely to be complete until the beginning of the academic year 1984–85.

One of the most serious academic problems still not solved is the organization of teaching for biology students, expected to number more than 2,000 (including pre-clinical and paramedical students). It is proposed that students should be grouped into three areas, including cell biology and "traditional" biology as well as biomedical sciences, but it is not yet known how student demand will be partitioned.

The cost of implementing the merger is as yet uncertain, but even allowing for the sale of some of the sites at present in use, sums in excess of £12 million have been put forward as the cost of establishing the merged college on a single site.

Meanwhile, Queen Elizabeth College is bitterly resentful of the way in which its budget for the next academic year has been determined, complaining that it was misled by a letter from the university a year ago promising that a then new arrangement for acknowledging the success with which colleges recruited outside support for research should be recognized by a "research factor" phased over three years. This year the expected second tranche has not materialized. □

UK innovation

Sharper image needed

WHAT is to be done about Britain's poor track record in industrial innovation? One answer emerged clearly last week at a conference where industrialists and academics confronted one another: there are no simple answers.

The conference was organized by the Institute of Manpower Studies and the *Times Higher Education Supplement*. Mr Kenneth Durham, chairman of Unilever, said that industry must improve its image with academics in order to encourage more active research collaboration. The government's role should be restricted to facilitating collaboration.

Lord Flowers, newly-appointed chairman of the Committee of Vice-Chancellors and Principals, warned that the autonomy of universities would be threatened if they failed to provide the sort of training that industry needed. He rejected the notion that British university research is too basic: if it were, he said, foreign companies would not find it so interesting. He welcomed the recent joint report of the chairmen of the Advisory Board for the Research Councils and the Advisory Council on Applied Research and Development (see *Nature* 30 June, p.743), which called for a "seed-corn fund" to promote collaboration.

There was general agreement that the monopoly rights on inventions arising from publicly-funded research enjoyed by the British Technology Group had made it more difficult for universities to take their responsibilities seriously. Mr Brian Oakley, head of the Department of Industry's Alvey Directorate, argued that productive academics receive too little support from funding bodies. There is a good case for a national regional research brokerage system to compensate for the inadequacies of the peer review system. But growing nationalism is a potentially serious threat to research collaboration, leading to loss of easy exchange of intellectual property across national boundaries. And, according to Professor John Ashworth of the University of Salford, university hierarchies and attitudes are not geared to industry's need for products delivered on time and to specification. Ashworth revealed that the successes of Salford's "Campus" scheme in fostering productive links with local industry are due in large part to a team of professional managers and public relations staff who chivvy along the academics in the university and attract the interest of industrial companies.

Tim Beardsley

Space Telescope

Planning for refurbishment

Washington

IN the latest of a series of confused signals about the technical status of the Space Telescope, Congress has been warned that the instrument may not be able to perform with its specified accuracy until several years after its launch at the end of 1986. Congressional investigators claim that flaws in the design of the critical fine guidance sensors are so severe that the National Aeronautics and Space Administration (NASA) may launch the telescope with imperfect sensors and replace them with an improved design some time after 1988.

The warning is contained in a report by the investigations staff of the House of Representatives Appropriations Committee. Based on private interviews with unnamed project scientists and NASA officials, the report contradicts many of the relatively optimistic public claims made by NASA. In hearings last month before the House space science subcommittee, NASA administrator James Beggs acknowledged the daunting technical obstacles but maintained that the telescope would conform to all its original design specifications (see *Nature*, 23 June, p.649).

According to the Appropriations Committee report, there is growing doubt within NASA and among the project scientists about the ability of the original fine guidance sensor design to achieve the pointing accuracy required. The report claims that Lockheed warned NASA in 1977 of flaws in the design, but no action was taken to improve it. NASA is now so concerned about the sensors that it has awarded the Applied Physics Laboratory at Johns Hopkins University in Baltimore a \$600,000 contract to design a substitute.

NASA still hopes that the original design, produced by the Perkin-Elmer Corporation in Danbury, Connecticut, can be made to work. The first operational sensor is to be converted into a test model and NASA expects to know by the end of November whether it will indeed be able to "lock-on" to a 14.5 magnitude star as required. If not, the report claims, NASA is ready to consider a fall-back plan under which the telescope would be launched with the imperfect sensors and a substitute design would be inserted into the orbiting telescope by space shuttle astronauts.

The new report does contain a glimmer of good news, however. It confirms claims by NASA that another serious problem — the chafing of the latches on the spacecraft's orbital replacement unit — has been overcome by coating them with tungsten carbide. And the report contains no criticisms of plans to remove dust from the primary mirror by blowing filtered air or dry nitrogen across the surface.

Peter David