

lian research scientists were recently awarded salary increases of as little as 3.5 per cent by the Commonwealth Arbitration Commission (*Nature*, 226, 99; 1970), a decision which sparked off widespread criticism of the arbitration system and prompted the scientists to commission a job evaluation survey by a firm of management consultants. Lower grades of research scientists in Australian laboratories earn a minimum of about £2,900, compared with £1,240 for assistant lecturers in Britain.

COMPUTER POLICY

Hard Sell for Software

AN amazing case of duplication of effort in government departments was described at last week's hearing of the Select Committee on Science and Technology investigation into the British computer industry. Mr Kenneth Barnes, managing director of Systems Programming Ltd, and self-appointed spokesman for Britain's £10 million software industry, alleged that the software for each of twenty-three payroll systems for use on ICL 1900 series machines in government departments was developed separately, a revelation which Mr Eric Lubbock described as "shocking". According to Mr Barnes, the matter is already attracting the attention of the Civil Service Department, but there is no mechanism in government departments to make known the programs which have been developed for 1900 series machines.

At present much of the software work for government departments is carried out internally, although the Civil Service Department seems to be reassessing this policy. Naturally, Mr Barnes wanted to see more of the software work put out to tender, and this view was supported by Mr Saul Steinberg, the controversial chairman of Leasco Data Processing Equipment Corporation, who was the chief witness at this week's hearing. Citing experience in the United States, where there is almost no software work carried out internally by government departments, Mr Steinberg said that the competition for contracts is good both for government and for the software industry. In the United States, Mr Steinberg said, secrecy is no obstacle and even the most sensitive contracts in national defence are given to private companies.

Pressed to give his opinion of the prospects for International Computers Ltd, the British computer manufacturer, Mr Steinberg said that ICL is in difficulties because it is marketing two unlike computer systems—System 4 and the 1900 series. This is something which even IBM would certainly never undertake. In any case, the British market is too small; a market the size of Europe is the minimum for a manufacturer such as ICL. But chauvinistic feelings are bound to make impossible the strategy of merging what is left of the European computer industry in one move. What ICL should do to break into foreign markets is merge with one international company, and build up from there. The government could help by giving ICL a contract for the development of machines compatible with both System 4 and the 1900 series, if that were a feasible task to attempt.

But both hearings concentrated on the British software industry, which Mr Barnes expects to grow by at least 30 per cent per annum up to 1974. The invasion

of the British software market which Mr Barnes was prophesying two years ago has not come about to the extent which was feared, Mr Barnes said, but nevertheless it is crucial that the British software industry take action to build up its muscles. Compared with the largest American software houses with up to 3,000 employees, British firms are small fry with staffs of a few hundred which are not equipped to tackle large-scale systems. The industry must take steps to consolidate itself, but mergers will be difficult to achieve bearing in mind that the chief assets of the companies are their staffs of independently minded individuals. According to Mr Barnes, the Industrial Reorganization Corporation has been considering a merger of three software houses, but it was obvious that nothing would come of the idea. One approach, Mr Barnes agreed, would be to merge software houses with management consultants. This should produce organizations capable of integrating computer systems with management more effectively—both witnesses recognized that this is an important aspect of software work which needs more attention.

COMPUTERS

German Companies Join Forces

THE proposed merger of the computing interests of Siemens and AEG-Telefunken, the two West German companies, is expected to bring a breath of fresh air to the discussions on a giant European computer which have been labouring somewhat during the past months. Although Siemens is already the second largest European owned company in Europe, after International Computers Ltd, the benefits of a more unified West German approach to European collaboration are felt to be more than adequate compensation to other European computer firms for any increased rivalry that may accrue from the proposed merger.

The West German Government has been stepping up dramatically its investment in the national computer industry, partly to counter growing pressures from American companies. Government aid is 90 per cent up this year compared with 1969, and is expected to reach £34 million over a five-year period. The importance attached to the industry became clear when Dr Stoltenberg, the Minister of Science in Dr Kiesinger's government, created a new department to coordinate government activity in this area.

The chief impact of the proposed merger will be in the large computer market, in which AEG-Telefunken is strongest.

There is little indication of any intention to merge the interests of the two companies in smaller computers, which may help to account for the cheerful view of ICL, whose specialities lie outside the large computer range. But ICL is naturally aware of the inroads an expanding German industry could make into its own buoyant markets in Eastern Europe and France.

Technical incompatibility between the machines of ICL and Siemens has been held by some West German sources to be partly responsible for dulling the talks on the Aigrain proposals for a giant European computer. But there is renewed hope now that the European talks will gain some new momentum. Certainly the West German company will feel itself in a stronger negotiating position.