

to thin-layer chromatography plates and identified as usual by comparison with markers.

The universality of the instrumentation remains to be established, but this work at the very least holds out the prospect that the determination of a new sequence will become a far less daunting proposition than it is at present. One may anticipate that there will be widespread interest in the sequenator (as Edman and Begg have christened their machine), and that this will not be lost on the instrument manufacturers.

Steel Research in Britain

THE British Iron and Steel Research Association had a good year in 1966. Income increased from £1.6 to £1.8 million, a record, and several research projects were successfully completed. The biggest splash of the year was made by spray steelmaking, a new semi-continuous process developed by BISRA and now being put into operation by several companies in Britain and by one in Canada. This process seems likely to be good enough to be a considerable embarrassment to a steel industry which already has too much capacity and no obvious need for a rapid, low cost process for converting iron into steel. Sparks have already flown between the Iron and Steel Board and Millom Hematite Ore and Iron Company, which sought and finally gained permission to go ahead with a plant using the process (see *Nature*, **213**, 959; 1967).

Other progress has been less dramatic but none the less significant. A new method of treating slag with steam to remove porosity and increase the bulk density has been successful, and work on the use of slag in slagcerams has continued. These are materials produced by the crystallization of silica-enriched blast furnace slag under conditions of controlled nucleation with iron oxide. What exactly slagcerams will be useful for if they can be easily produced on the shop-floor is not clear, but they may make good building materials. BISRA has also been successful with an electro-slag refining process, and has set up a separate unit to continue work on the process and make it available to steelmakers on a contractual basis. A new ICT 1905 computer was obtained to replace an ageing Pegasus, and a new laboratory was opened on Tees-side with extensive facilities for investigations by all divisions of the Association.

Nationalization Next

THE report does not mention the subject which is causing most speculation—the question of what will happen to the association when the steel industry is nationalized on July 28 this year. This problem has been the concern of a working party set up six months ago by the Ministry of Power with a membership including Dr H. M. Finnieston, who is to be Deputy Chairman in charge of research for the National Steel Corporation, Dr L. Rotherham, member for research of the CEEGB, and Sir Charles Goodeve, Director of BISRA. What the committee thinks will only become apparent when it makes its report to the minister, but several possibilities emerge.

BISRA could, of course, be wholly absorbed into the NSC, but there are serious snags in this suggestion. For a start, only half of BISRA members are producers

of steel. The rest are users of steel or suppliers of raw materials such as ceramics. In addition, although BISRA does have 264 iron and steel producers as members, only 14 of them will be nationalized on July 28. (As it happens, these 14 supply 75 per cent of BISRA's income, through the Iron and Steel Federation.)

An alternative solution would leave BISRA outside the immediate ambit of the NSC, in a no-man's-land between private and public industry. The nationalized companies would continue to support the association at the present level, and the private companies would also provide support through the new Iron and Steel Federation which is to represent them. The snag here is that the NSC would then be bearing 75 per cent of the cost of supporting a research association whose results would be made available to companies in the private sector. Again, it might be argued that one of the benefits of size which nationalization will bring is the freedom to conduct research on a scale which renders collaborative research on the BISRA model redundant. At least part of the reason for the existence of research associations in Britain is the extreme fragmentation of British industry. In the circumstances, BISRA might find itself doing research only for those companies which are too small to do it for themselves and which are not to be nationalized. This is the least likely solution of all. Most probably there will be a compromise, leaving BISRA in a semi-autonomous position, although nobody pretends that the details will be easy to work out. While the short term problem may be that of propping BISRA up, in the longer term it may prove well able to look after itself. Income from patent royalties is increasing, and if spray steelmaking is really the bonanza it promises to be—BISRA have set up a separate company to market the process—a large income from this source could be assured.

Worth a Thousand Words

THE Board of Trade announced on May 17 new steps to make details of British patent specifications more readily available. These involve increasing the speed with which the patent abridgements are published. Abridgements, the main source of information for patent searchers, will in future be published very soon after the patent specifications to which they refer. The total series of abridgements covering 25,000 patents will be complete in about 30 weeks and will cost £155.

This may seem expensive, but is evidently not expensive enough. The move follows pressure from the Board of Trade on the Patent Office to reduce the costs of producing the abridgements, which run at a loss, partly because some are given away to libraries in the interests of disseminating technical information. One unpopular move which the Patent Office made in the attempt to cut costs was to omit from the abridgements the drawings which accompany the patent specifications. In some subjects—chemistry, for example—the omission may be acceptable, but in others it makes the abridgement almost incomprehensible. Patent searchers, who have to read and understand as many as 50 abridgements an hour, have been inconvenienced by this. A recent abridgement for