

vessels, on advanced designs and on the newer materials for construction. The most fertile export markets are now able to produce mild steel vessels for themselves.

The committee gave special emphasis to pressure vessels made from steel plate by welding, chiefly because of their importance in the chemical, oil and other power producing industries. Its forecasts of future developments are by no means as confident as its analysis of the present situation. The total value of shop-built pressure vessels in the United Kingdom was as great as £58 million in 1966, however, while the total expenditure on plant, hardware and equipment for the industry in 1966 was £500 million. By this test, the pressure vessel industry represents an important fraction.

CRITICAL DATA

Storage by Computer

THE Queen's University, Belfast, has been awarded a grant of £11,700 by the Office of Scientific and Technical Information to carry out research into the establishment of a data bank for atomic and molecular physics. The research will be focused on finding and developing the most efficient methods of storing the mountains of data being thrown up by experiments in atomic and molecular physics. The problems of on-line retrieval and of communicating with the computer through the regular telephone network will be high on the list for study. The project is also intended to include the setting up of a file system which will rid experimenters of the perennial torment of what to do with data which are too bulky for publication but still of sufficient potential interest to warrant retention.

Dr F. J. Smith, who is in charge of the project, points out that research into this type of data storage is at present rather scarce, particularly in Europe, and he envisages a wide application for any viable technique which may emerge from his team's efforts. A typical service facility that could evolve from such a system might be a subroutine library from which any of the computer's subscribers could draw on the fund of previous experience.

There are, of course, problems in tapping data from a computer, as the National Bureau of Standards in Washington has found in its Standard Reference Data System (NSRDS). Is a computer program necessarily capable of defining what are "standard reference data" for the purpose of a given user? How is a critical evaluation of the data to be carried out?

The NBS admits that the green light which Congress gave to the NSRDS project last year by no means implies that these questions are solved, and it is likely that the research carried out by the Belfast team as well as by those in the US will take some years to bear any fruit. Atomic and molecular data are suitable for starting off such a system, however, as quantities like vibrational frequencies in molecules or NMR frequencies are very well defined and thus unlikely to lead to misunderstandings.

RADIOCHEMICALS

More, Hotter and Better

THE Radiochemical Centre at Amersham boasts that the new catalogue which it has just published offers a

more comprehensive range of radioactive chemicals than any of its competitors. With a total of 1,300 items, the new catalogue lists 140 new products or services, mostly biochemical tools—labelled amino-acids, carbohydrates and nucleic acids. Some of the familiar tritiated and carbon-14 labelled compounds have improved specific activities, and in a few cases the specific activities approach the theoretical maximum. But there are also new items of interest to industrial and clinical laboratories—a newly developed curium-244 alpha particle and neutron source and a newly developed cobalt-60 source, for example. As if that were not enough, the centre points out that, because of increased competition and increased sales, most of the items listed cost no more than in 1967, when the last catalogue was published. In the past two years, the international prices for radiochemicals have apparently stabilized and, if anything, there has been a slight downward movement. Reflecting this, the Amersham catalogue has the occasional marked down item.

Currently, the centre exports about 60 per cent of its production, chiefly to the United States, Western Europe and Japan. Its share of the United States market, by far the largest in the world, is a closely guarded secret but is coyly described as useful. The centre is no doubt looking for an increase now that it has its own marketing link in the United States—the company called Amersham-Searle set up last July on a fifty-fifty basis with the Chicago drug company, G. D. Searle.

Amersham, with an annual turnover of £3 million, is the junior partner of the Atomic Energy Authority's trading group, dominated by the fuel reprocessing division at Risley. Nonetheless, it makes a profit which ultimately gets ploughed back into development of the centre. Amersham has come a long way since 1940 when, as Thorium Ltd, it was chiefly concerned with making luminescent radium paint for aircraft control panels. With business booming as never before, an American subsidiary, and with plenty of overseas competitors breathing down its neck, Amersham's future seems rosy.

POLLUTION

Compromise Smog

"Not worth the paper it is written on" and "A useful report, worth reading despite its naivety" were the conflicting comments of the directors of two British environmental pollution laboratories on the World Health Organization's technical report *Research into Environmental Pollution*. The report (WHO Technical Report 407), just published, is based on the work of five WHO scientific groups convened at Geneva between 1963 and 1965 and is obviously a compromise document. But its well-wishers say that it is the best that could be hoped for, considering the politicking that goes on when the WHO considers such emotionally laden topics as pollution.

By all accounts, each of the five scientific groups spent its week in Geneva sifting through several kilos of specialist papers, trying to hammer out a final statement which would offend no one. One of their difficulties was that pollution research is very much a matter of national sensitivity. The Americans, for example, tend to be preoccupied with photochemical smogs—the Los Angeles syndrome—whereas the Russians are wedded to studies of the effect of low concentrations