COLLOID SCIENCE

Special Support Needed

THE Science Research Council considers that about £100,000 will have to be spent during the next two or three years if interest is to be revived in colloid science and if the subject is to be properly developed. The council says that, in the first instance, existing research groups should be strengthened and young workers encouraged to set up new and independent research teams. The justification for adding colloid science to the list of subjects considered worthy of special support by the SRC is contained in the report of a multidisciplinary panel set up by the chemistry committee of the council's science board and published last week (*Colloid Science,* Science Research Council: 1972).

Part of the panel's brief was to examine colloid science as practised in both academic institutions and industry, and a substantial part of the report is concerned with present manpower levels and the way in which they could be improved. The panel found that between 1955 and 1970 about 170 PhDs and 10 MScs by research were awarded in colloid science—most of them in chemistry departments, but a "substantial number" in chemical engineering, pharmacy and physics departments. The number of PhDs who qualified in chemistry departments during those years was 1.4 per cent of all PhDs in chemistry. And since 1964 about twelve students a year have graduated from the MSc course in surface chemistry and colloids at the University of Bristol.

Of the thirty or so postgraduate students with special knowledge of colloidal dispersions who have emerged from the universities in each of the past five years, more than half have entered industrial employment, according to the report. As for the manpower situation in companies themselves, it turns out that those principally concerned with chemicals have about 14 per cent of their research staff working on colloids, but only about 7 per cent of these were originally trained in the subject. On the other hand, companies involved with detergents or food technology tend to employ more specialist colloid scientists. The panel also says that it is "amazing that several organizations indicated that they had no interest in colloid science, although they are heavily dependent on materials exhibiting complex colloidal phenomena". This lack of awareness is, in the panel's view, partially a consequence of the absence of colloid science from many undergraduate courses.

One of the recommendations of the panel is that inter-university seminars should be held every two years to stimulate and maintain interest in colloid science, especially among holders of SRC postgraduate awards. The panel also suggests that there is a special role to be played by the SRC's Cooperative Awards in Pure Science scheme in forging channels of communication between those companies with an interest in colloids and the appropriate academic institutions. And the report calls on bodies such as the Society for Chemical Industry to recognize the need to disseminate information on developments in colloid science to all companies that should be aware of new developments and their possible applications.

Finally the report recommends that the SRC should set up an advisory panel to review progress and advise on future developments—in two or three years time, for example, this panel should be in a position to recommend what further financial support is necessary, and whether the closer cooperation hoped for between industry and academic institutions will require its own special funding.

CONSERVATION

Protection for Seals

WITH commendable foresight—no doubt prompted by the memory of the past history of the International Whaling Commission which arrived too late and too feebly to protect the blue whale from decimation (see *Nature,* **232**, 80; 1971)—the first steps have been taken to protect Antarctic seals. At a conference in London recently, the twelve signatories to the 1959 Antarctic Treaty adopted the text of a convention forbidding the killing of Ross, elephant and fur seals, and limiting the slaughter of crabeater, Weddell and leopard seals in latitudes below 60 degrees south. The convention is designed to protect seals from commercial exploitation and for once governments have begun to move before industry.

Under the terms of the convention—which has yet to be signed and ratified—the species and numbers of all seals taken in the Antarctic must be reported to the Scientific Commission for Antarctic Research (SCAR). Limits to the numbers of seals that can be taken have been set and are well within the estimated maximum sustainable yield. Once these limits have been reached in any one year the signatories will meet again and consider what action can be taken. As all the early killings have to be reported to SCAR with details of age, sex and reproductive condition, it is hoped that by then scientists will have a much clearer idea of the numbers of seals in the area.

Current estimates vary from 5 to 50 million. Estimating numbers is difficult as the Antarctic covers one fifth of the world's surface, and the seals, with the exception of the Weddells, tend to live in the sea rather than on land or fast-ice. The most common species is the crabeater with an estimated population between 2 and 10 million although there may be many more. The limits that have been set to catches are 175,000 crabeater seals, 12,000 leopard seals and 5,000 Weddell seals.

These moves come before seals are in danger. There has only been one commercial expedition to the Antarctic in recent years—by the Norwegians—and there is no industry established yet. The seals, however, represent a valuable resource as their blubber oil is very similar to whale oil and can be used for solid oils and cooking fats, and scientists are convinced that it is only a matter of time before industry moves into the Antarctic. They hope that potential exploiters will see the convention as a declaration of intent, and thus it will prove possible to control the industry before large amounts of capital are involved. It is this as much as anything which made the International Whaling Commission ineffective, as industry was heavily involved financially before attempts were made to control it.

The British representatives at the conference are well pleased with the results. Dr Brian Roberts of the Polar Regions Section of the Foreign and Commonwealth Office said last week that the convention was "a very big step forward" and Mr Nigel Bonner of the Seals Research Unit, Lowestoft, also said last week that the convention forms "a very adequate safeguard".

The reaction of bodies not actually involved in the convention is not so enthusiastic. Both the World Wildlife Fund and the Fauna Preservation Society welcome the convention as providing some sort of protection where before there was none. But both wish the agreement had more teeth. There is no provision for observers in the convention, although it is stated in the text that they may be introduced at the next meeting, when the catch limits have been reached.

It is, however, no secret that the convention is something of a compromise. The Americans came to the conference hoping for some sort of inspection system and even added a statement to the text saying "that the convention should contain stronger provisions for the observation of operations and enforcement of regulations". Agreement on this proved impossible largely because the USSR, Chile and Argentina would not agree to inspection of their vessels; the South American countries, because they claim territorial waters 300 miles off their coasts, would not agree to inspection within them. As it is, however, the reporting system to which the contracting parties have