Magnetic Measurements and Biological Substances

In the last few years, magnetic measurements have been carried out which indicate that it is possible to get some additional information regarding the ionic configuration and the type of binding that exists in some of the complex biological substances such as hemoglobin.

F. Gruen and R. Hass [*Nature* **177**, 378 (1956)] have investigated the "Magnetic properties of vitamin B_{12}—the anti-pernicious anemia factor" [see *Science* **113**, 55 (1951)]. The substance contains cobalt. The cobalt, apparently, is in a trivalent form since B_{12} is diamagnetic. This checks with the hexacoordinated form of the compound as revealed by x-ray investigations. [For a general description of the behavior of vitamin B_{12} and its structure, see A. W. Johnson and A. Todd, *Endeavour* **15**, 29 (Jan. 1956)]. By following the magnetic measurements through the various stages of reduction, it is possible to follow the changes in the coordination and magnetic properties of cobalt and thus to elucidate the behavior of this rather complicated compound. When only about 150 micrograms of material are used in the sample tube, the measurements indicate that on reduction the contents become more paramagnetic.

Changes in susceptibility reflect the extent of the reduction as well as the degree of decomposition of the reduction products. The reduced form of the vitamin B_{12} gives a molar susceptibility corresponding to 4 Bohr magnetons.

This is the lower limit for compounds containing bivalent cobalt, thus indicating that the cobalt atom in the reduction is bivalent.

Merit Scholarships

According to figures compiled last week by the National Merit Scholarship Corporation, a very high percentage of the most able high school seniors are aiming for careers in science and engineering.

The N.M.S.C. assembled the figures from among the 5078 semifinalists who represent the pick of an original preselected 60,000 high-school seniors who took the first N.M.S.C. test on 26 Oct. 1955. The original group represented students picked by high-school principals throughout the nation as those among the top 5 percent of their senior classes.

Results show that 56 percent of the boys and 16 percent of the girls desire to become engineers or scientists. Chemistry, physics, and various engineering fields hold the strongest appeal for this group.

A further process of selection is now being conducted to find the eventual winners of $3 million in scholarships.

The N.M.S.C. was established last fall by grants totaling $20.5 million from two leading foundations. Since then the N.M.S.C. has been conducting a nationwide hunt for the high-school seniors who are best able to benefit from a college education.

News Briefs

■ As part of the safety precautions for the forthcoming nuclear tests at the Eniwetok Proving Ground, the U.S. Atomic Energy Commission has issued public notice of the danger area that will be established in the North Pacific Ocean effective 20 Apr. 1956.

The area is generally rectangular in shape and comprises roughly 375,000 square nautical miles. Although slightly smaller than the danger zone used in the latter part of the 1954 series, it is many times larger than the initial area used in 1954 and has been reoriented slightly for increased safety.

The forthcoming series of tests will involve weapons generally smaller in yield than those tested during the 1954 test series. It is expected that the energy release of the largest test will be substantially below that of the maximum 1954 test.

■ A Joint Blood Council, with headquarters in Washington, D.C., has been set up to coordinate the activities of some 1500 blood banks in the United States. The council will replace the Red Cross as the official blood-procurement agency in emergencies.

The council will have no banks of its own, but will assist local programs and try to devise some systems for standardizing, inspecting, and accrediting local banks. The American Medical Association, American Hospital Association, American National Red Cross, American Association of Blood Banks, and American Society of Clinical Pathology are represented on the council.

Scientists in the News

PARKER D. TRASK, a lecturer in geological engineering in the division of mineral technology at the University of California and a specialist in petroleum engineering, has left for India to give a series of seminars at universities there. Trask will serve as the representative of the U.S. Geological Survey in connection with the State Department foreign aid program; he also has been appointed United States representative to the Golden Jubilee celebration of the Mining Institute of India.

HANS BELLER has been appointed manager of the new high-pressure acetylene products plant of General Aniline and Film Corporation at Calvert City, Ky.

HARROLD B. JONES has joined the research staff of American Smelting and Refining Company as a research coordinator for insecticides. With this appointment, American Smelting and Refining Company plans to accelerate its research program on arsenical insecticides in cooperation with the U.S. Department of Agriculture and land grant colleges.

LEONARD J. BRASS, associate curator in the department of mammals of the American Museum of Natural History, department of mammals, will head a scientific collecting team that will work for 9 months in the eastern islands of the Papua area. The expedition is sponsored by RICHARD ARCHBOLD, research associate of the museum and president of Archbold Expeditions, a nonprofit corporation affiliated with the museum. Working with Brass in New Guinea will be RUSSELL F. PETERSON, staff member in the department of mammals.

The expedition will work first on Normanby and Fergusson islands in the D'Entrecasteaux group, making extensive collections of mammals and plants. In addition to vascular plants, the group will collect mosses, liverworts, and lichens. Plans also call for field work on the Louisiades Archipelago and Woodlark Island, and for limited study and collection of reptiles, amphibians, fresh-water fishes, insects, and birds.

PHILIP B. PRICE, formerly chairman of the department of surgery and more recently acting dean, has been named permanent dean of the University of Utah College of Medicine. He will retain his position of professor in the department of surgery.

C. S. RHODE, professor emeritus of dairy science extension of the University of Illinois College of Agriculture, was honored at the annual meeting of the Illinois Purebred Dairy Cattle Association for his contributions to dairying, which included the organization of a cooperative artificial breeding association to serve northern Illinois.

HAL B. H. COOPER has joined American Potash and Chemical Corporation in the newly created position of director of development engineering. He is in charge of special engineering phases of new projects and developments at various company plants and will act as engineering adviser on pilot-plant research operations. Cooper previously