settlement and so well preserved that they can hardly be more than several hundred years old, are probably the most recent such remains ever found. Previously the Dorset people, whose ancestors were the first human beings known to have spread across arctic North America, were thought to have disappeared nearly a thousand years ago.

The discovery came almost by accident. Walrus is a small granite islet scarcely a mile long. Collins and his party visited it during a side trip from their main base on Southampton Island, northern Hudson Bay, where the expedition had been excavating the site of one of the oldest Dorset settlements known.

The houses found on Walrus Island were built of masssive granite blocks and boulders piled in the form of walls around deep excavations in the frozen soil. These walls were fairly well constructed. There were houses of one, two, and three rooms. The latter were in the general shape of a clover leaf. All were roofless.

Until the present, according to Collins, the Dorset people have been one of the greatest puzzles of arctic anthropology. Little has been known of their dwellings or of their manner of living. Their harpoon heads, knives, and other implements are so different from those of other Eskimos that some had thought they might have been of Indian ancestry rather than Eskimo.

Collins reports that "These questions have been considerably clarified by our discoveries on Walrus Island and nearby Southampton this summer. The significant thing about our discovery is that it indicates the Dorset people did not mysteriously disappear as has been supposed, but that their culture persisted until fairly recently. It suggests that theirs was the dominant, basic culture of the central Arctic for over a thousand years. It also removes any doubt of the Dorset people being anything but Eskimo. Some of their culture traits and presumably their blood undoubtedly still persist among present-day Eskimos in the Canadian Arctic."

According to Collins, the outstanding characteristic of the Dorset Eskimos was their use of tiny tools made of chert; the tools are so small that a whole tool kit of knives, scrapers, side blades and burins, scarcely covers the palm of one's hand. Tools were found at both sites, but those from Southampton represent a much earlier stage of the culture. Collins believes that the earlier stage is more than 1000 years old. He considers the Southampton tools to be prototypes of the implements and weapons found on Walrus Island.

The expedition's work this summer, Collins says, throws new light on the history of human occupation of the arctic. There were two distinct migrations out of Alaska across Canada. One migration is represented by the Thule people, whose traits constitute the most prominent element in the culture of present-day Eskimos. The Thule people used heavy weapons somewhat crudely designed. The other migration is represented by the Dorset people, whose ancestors left Alaska at a much earlier time. The path of their migration is less satisfactorily known.

In some ways the cultures of these two stone-age peoples were similar, in others quite different. Both were sea-mammal hunters and both built stone houses. But the Dorset craftsmanship is characterized by small, nicely designed weapons made of ivory, bone, and stone. The Dorset people also displayed high artistic ability; they left skillfully carved animal and human figures in ivory and bone. In the course of centuries the two peoples apparently mixed. Ways of life were borrowed and elements of Thule culture were superimposed on the Dorset, the result being the present Eskimo culture.

The expedition, Collins' second to Southampton Island, was a joint enterprise of the Smithsonian Institution, the National Museum of Canada, and the American Philosophical Society. Transportation to and from Southampton was provided by the Royal Canadian Air Force. Other members of the expedition were J. N. Emerson of the University of Toronto; William E. Taylor, Jr., of the National Museum of Canada; and James V. Wright, University of Toronto student in anthropology. The expedition brought back extensive collections of plants, insects, and fossils.

News Briefs

■ Honeybees are able to make use of an internal "clock" to gage the passage of 24 hours, according to a report by Max Renner, zoologist of the University of Munich, who this summer conducted a transoceanic experiment at the American Museum of Natural History and the University of Paris. The results of the experiment, which were made public by Theodore C. Schneirla, curator in the American Museum's department of animal behavior, indicate that a bee's memory of time intervals can function independently of regular external factors such as the rhythm of night and day.

The existence of a bee's internal clock was finally established at the conclusion of a two-phase project that was conducted under nearly identical conditions in both New York and Paris. First a colony of bees, a group of which had been trained to forage for food at a particular time each day in a specially constructed testing room in Paris, was flown to New York between feeding periods. Three days of testing without food in an identically constructed testing room at the American Museum showed that the bees maintained their 24-hour foraging schedule, regardless of the geographic change and the 5-hour difference in sun time.

Similarly, a second group of bees trained in New York maintained their 24-hour schedule after they had been flown to Paris.

It has long been known that if food is available at a certain place at only one time of day, bees soon learn to visit that place during only that time each day. Previous experiments had also shown that bees could be trained to feed at a certain place only at 24-hour intervals, not at periods of greater or lesser frequency. Purpose of the transoceanic test was to determine whether or not the 24-hour cycle is controlled by endogenous influences—that is, intrinsic timing devices in the insect's metabolism—or by exogenous factors that might be celestial or cosmic.

Still unanswered is the question of whether or not the 24-hour feeding cycle is innate in bees or whether it is impressed on them during their early development by environmental factors and continues to function when these factors are eliminated under laboratory conditions.

■ The Department of Defense has announced that a preliminary contract for production of a satellite has been awarded to the Glenn L. Martin Company of Baltimore, Md. The department also authorized a contract with General Electric Company for a first-stage rocket motor. The Martin Company, as the primary contractor, will produce the launching vehicle.

Other private contractors will be brought into Project Vanguard as it develops. The Navy Department has been designated executive agent for the project and will award the contracts. The chief of Naval Research, F. R. Furth, will exercise general supervision over Project Vanguard and will coordinate the contributions that may be made by the Army and Air Force as well as the Navy. John P. Hagen of the Naval Research Laboratory has been designated project director.

In the initial White House announcement of the International Geophysical Year satellite program, it was officially estimated that the project would cost $10,000,000, "exclusive of the launching operation itself." Hugh Odishaw, executive secretary of the United States National Committee for IGY has stated that approximately 10 satellites would be hurled into space into different orbits. He explained that in their elliptical

courses the satellites would range from 800 to 200 miles from the earth.

Although the exact shape and size of the satellite itself has not yet been determined, it will be small but large enough to contain a number of instruments and to be tracked from the ground by optical and radio devices.

Vanguard, the first vehicle, will be established in its orbit around the earth in the following general manner: the first rocket will start the entire assembly vertically on the first part of its flight. When its fuel is exhausted, the first stage will drop off and the second rocket, deflected from the vertical, will continue the satellite upward.

The third rocket, carrying the satellite proper, will accelerate it to a top speed of about 18,000 miles an hour, which will establish the satellite in its orbit, where it will continue under its own momentum.

The satellite's orbit will be elliptical rather than circular, and, at its perigee, may be approximately 200 miles distant. The satellite will revolve about the earth once every 1 or 2 hours for several days.

The cumulative effect of the drag of the earth's atmosphere, thin though it is at a 200-mile altitude, will still be sufficient to bring the satellite gradually closer to the earth. The friction of the air will cause the satellite to disintegrate as it enters the denser atmosphere.

■ The research vessels *Spencer F. Baird* and *Horizon* of the University of California's Scripps Institution of Oceanography have sailed from San Diego on the first leg of an oceanographic expedition to the waters of Central South America. The scientific leader of the voyage, which is called the Eastropic Expedition, is Townsend Cromwell, oceanographer for the Inter-American Tropical Tuna Commission, and a research associate at Scripps. He is aboard the *Baird*. Chief scientist aboard the *Horizon* is John A. Knauss of Scripps.

The ships will join vessels from the California Department of Fish and Game and from the U.S. Fish and Wildlife Service group at Honolulu for work in the eastern tropical Pacific. A vessel from the Peruvian Navy may participate in investigations off Peru. The Scripps vessels are due to return to San Diego on approximately 15 Dec.

In addition to regular oceanographic survey work, the expedition will make detailed studies of several areas in the tropical Pacific, including a rich tuna-fishing region off Costa Rica.

■ The first coelacanth that has thus far been observed alive lived less than a day after capture. Its death has been ascribed by J. Millot [*Nature,* **175,** 362 (26 Feb. 1955)] to decompression combined with rise in temperature of the water. J. Smith, however, doubts this diagnosis, for in 1938 the first of these fishes ever secured lived for more than 3 hours out of water on a trawler's deck during an unusually hot day [*Nature* **176,** 473 (3 Sept. 1955)].

Smith points out that large fishes taken alive on a line after struggling, despite the absence of any visible injury, rarely live for more than a short time even when they are set free. Curiously, fishes that have been harpooned, even though severely gashed, have a greater incidence of survival than those caught on hooks.

Smith suggests that "high nervous tension" produced by the conditions under which the coelacanth was kept after its capture may have contributed to its early demise. He also doubts the reported extreme photophobia of the animal, and regards its reactions to sunlight as merely natural uneasiness toward unfamiliar surroundings that became increasingly obvious to observers from dawn onward.—W.L.S., JR.

■ Understanding of superconductivity, the property of certain materials at a sharply defined low temperature to show immeasurably small electric resistance, presents a great challenge to solid-state physics. In recent years a number of new superconductors have been prepared and some successful attempts to formulate a theory have been made.

W. Buckel of Göttingen, Germany, [*Naturwissenschaften,* **42,** 451 (August 1955)] reviews new experimental results in the field of superconductivity. This article, which has 125 references, discusses (i) new superconductors; (ii) change of physical properties at the onset of superconduction; (iii) the isotope effect; (iv) the effects of pressure and lattice effects on the characteristic properties of superconductors; (v) the transition state; (vi) experiments on the phenomenological theory of superconduction; (vii) theory; and (viii) application of superconduction.

Superconductors have been used as bolometers and radio detectors, and a superconducting galvanometer with an inner resistance of 10^{-7} ohms has been constructed so that a sensitivity of 10^{-12} volts can be reached. Particularly important is the use of superconducting switches in thermostating at temperatures below 1°K.

■ The U.S. Naval Radiological Defense Laboratory, an $8 million facility for studying protective measures against radiation, was dedicated at the Hunters Point Naval Yard in San Francisco on 14 Oct. The decision to establish the laboratory was a result of the Bikini nuclear explosion and the attempt to decontaminate ships used in the tests.

Scientists in the News

ALBERT SCHWEITZER, scientist, missionary, musician, philosopher, and Nobel prize winner who for 41 years has been physician to lepers of the Congo area, was honored on 19 Oct. by Queen Elizabeth with the insignia of an honorary member of the Order of Merit. This order may be held by only 24 living Britons. The only other living non-Briton to be an honorary member is President Eisenhower. The presentation took place at a full-scale state ceremony.

Schweitzer's visit to England from his home in Alsace has received a great deal of attention in the London newspapers. In one encounter with the press, he interviewed himself.

"You will ask me where I have been lately," he said. "In Gunsbach in Alsace. There I meet old friends and recognize big trees which were only saplings when I was a boy.

"When do I go back to Africa? In December . . . after finishing some manuscripts.

"Then you ask what the manuscripts are about. But no, that I will not tell you."

ALBERTO F. THOMPSON has been named head of the Office of Scientific Information of the National Science Foundation, and CLYDE C. HALL, public information officer. Thompson, a chemist, joins NSF from the Atomic Energy Commission, where he has served for the past years as chief of technical information. He was in charge of the United States exhibit at the recent International Conference on the Peaceful Uses of Atomic Energy in Geneva.

Hall has been serving as special placement representative for the Civil Service Commission, where his major responsibilty was the identification and placement of management specialists in the Federal services.

SANFORD S. ATWOOD, plant scientist and dean of Cornell University Graduate School, has been named provost of the university. He succeeds FORREST F. HILL, who will join the Ford Foundation as vice president in the area of overseas operations. Atwood will retain the deanship until a successor has been selected.

LEE DE FOREST, whose pioneering efforts in electronics have led to modern instrumentation and automation, was presented the first ISA achievement award by the Instrument Society of America at its 10th annual Instrument-Automation Conference and Exhibit in Los Angeles, Calif., 12–16 Sept. De Forest is widely known for his invention 50 years ago of the first radio vacuum