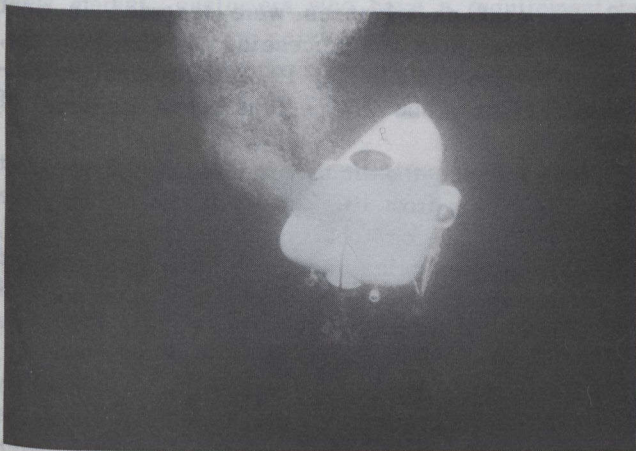


SUBMERSIBLE REVEALS OCEAN SECRETS

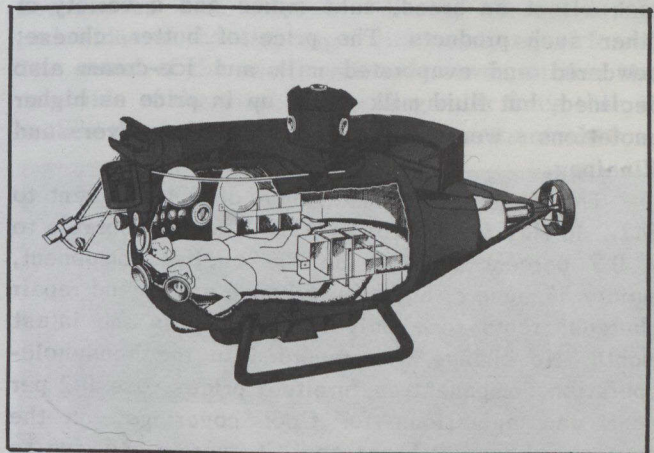
During the Second World War, small underwater craft known as "midget submarines" were used to steal into enemy harbours to sink ships. The tiny submarines have since developed from weapons into increasingly sophisticated instruments of research, exploration and prospecting. To point up the distinction between vessels of war and craft intended for strictly scientific and commercial purposes, the older term has now been replaced by the designation "submersibles". The Vancouver-built *Pisces* and *Sea Otter* series belong to this "generation" of manned submersibles, which perform the same tasks as frogmen but at much greater depths and with increased power and versatility. The most recent models have a lock-out compartment for divers, which they can also use as a work platform. The small craft come from the shops of such Canadian firms as International Hydrodynamics Company Limited of Vancouver (HYCO) and Arctic Marine Limited, pioneers in this field for the last eight years. The *Pisces* and *Sea Otter* developed

by their engineers resemble large mechanical fish, one-fifth the size of the smallest whale but capable of manoeuvring and performing complex tasks as much as 6,200 feet below the surface. The smallest model measures slightly over 13 feet in length and weighs three and a half tons. It is propelled by an electric motor that permits dives of five to 12 hours duration. In addition to its ballast, this model can carry a three-man crew and a 200-pound payload.

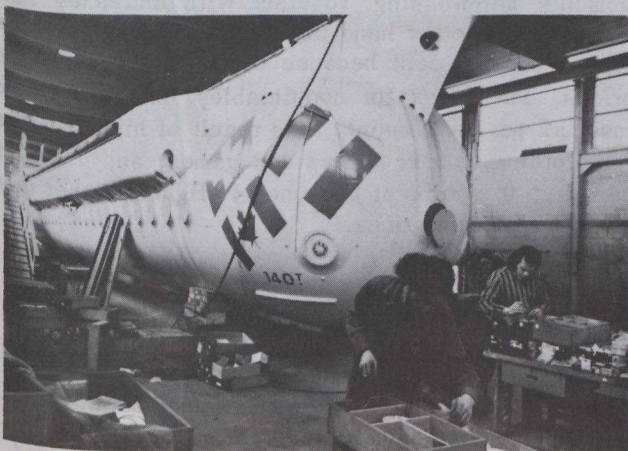
Since 1968, *Pisces* submersibles transported by icebreakers have been used for exploration and study of the sea-bed under the Arctic ice. They have been used for tasks as varied as the laying and inspection of submarine cables, the study of problems caused by pollution of the oceans, salvage operations, and mineral and oil prospecting. Their work is done with the aid of manipulators, corers and other detachable equipment mounted on the hull. The submersible's interior reminds one more of a space capsule than of a conventional submarine.



Pisces III, made by HYCO in Vancouver.



Graphic of a *Sea Otter*.



The *Picard* is a small submersible used in oceanographic research and exploration.



SDL-1 is used by the Armed Forces.