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# THE MEANING OF THE NAUTILUS' POLAR VOYAGE

The reaction of the world to the epic journey of the NAUTILUS across the Arctic Sea and under the North Pole far surpassed the imaginations of all of us who have been closely associated with the development of this fine ship. The name of the NAUTILUS and its intrepid skipper, Commander Anderson, will have a secure place on the roster of naval ships and heroes who have explored the Arctic. To reach the North Pole by sea has long been a goal of the U. S. Navy. As long ago as 1879 Lt. George W. DeLong, in command of the JEANETTE, left the Navy yard at Mare Island, California, on an expedition to the North Pole. The voyage was ill-fated and but few survivors returned after three long years of incredible hardship. Many expeditions followed; few succeeded. The statement that "The Arctic Ocean has been for years the nursery of heroic deeds" could well have been the motto of our Navy's long efforts to conquer the Arctic.

For those who are interested in adventure and exploration, the journey of the NAUTILUS and of her heroic crew will always remain one of the great naval achievements of our time. To the scientific-minded, the complex nuclear propulsion plant of the NAUTILUS and the many novel and ingenious navigational devices which guided her safely through unknown waters will prove endlessly exciting. All thoughtful persons will contemplate this Arctic journey with mixed feelings. Proud as we have a right to be that an American ship was the first to cross the Pole, we cannot escape a sense of sober concern if not of anxiety. With this voyage, another protective shield has disappeared to leave an already insecure and apprehensive world still more exposed to sudden attack.

Steaming at speeds in excess of 20 knots through the dark seas below the polar icecap, the NAUTILUS has in one bold step opened a new frontier. Science and engineering, by creating nuclear propulsion, have demolished the traditional fortress-like protection of the polar icecap which had heretofore shielded the lands bordering on the Arctic. No longer is the Arctic Ocean with its thick roof of ice, inscrutable to man's curiosity. It will now be exploited both for commercial interests and for military and naval purposes. Everyone who lives in lands bordering the Arctic seas knows that these areas have now become accessible not only from the air but from the sea as well. Obviously, the Arctic waters will be accessible only to those nations who possess nuclear powered submarines. Any one of these nations may decide some day to turn these frozen seas into the next military theater. Modern technology has thus brought another once-distant part of the globe into the center of world politics.

The transpolar voyage of the NAUTILUS was not only a realization of dreams long held by many men, but it also marked completion of the final test of the NAUTILUS, three and a half years after she first went to sea in January 1955. The NAUTILUS has operated more intensively than any other new naval ship in history. Time after time, in operation after operation, she has demonstrated that she is not just another submarine but an entirely new weapon system whose features we are only beginning to understand and exploit. Freedom from the earth's atmosphere with practically unlimited endurance at high speeds which is characteristic of nuclear propulsion permits her, as now surely demonstrated, to go anywhere, at any time. This voyage has shown that the nuclear submarine has matured as a naval weapon.

Many new naval weapon systems are presently being developed. These systems combined with nuclear propulsion and its unprecedented mobility will make our submarines capable of taking on heretofore undreamed of missions. The primary mission, however, of the U. S. Navy is to maintain freedom of the seas. The major threat to our ability to maintain this freedom lies with the Soviet Navy which is the second largest in the world. The Soviets have concentrated on submarines. They have about 450 against our 110. Since World War II the Russians have built 350 submarines to our 21. At the outbreak of World War II Germany had but 57 submarines and of these only 22 were ocean-going. Before the German submarine fleet could be demolished 40 thousand men lost their lives and 14 million tons of Allied shipping sank to the bottom of the seas. It should be a sobering thought to all of us that the Russian submarine fleet is now ten times as large as was the German submarine force at the beginning of World War II. The Soviets have more submarines today than the Germans had at any single time during that war.

Fortunately we are, at the moment, ahead of the Soviets in the development of the nuclear powered submarine. And, it is by far the best antisubmarine weapon we have today. We must make certain that we remain ahead with this antisubmarine weapon system and that we build a sufficient number of these attack submarines to combat the Soviet submarine menace.

Too often we think of the submarine merely in terms of a ship lying in wait in the depths of the ocean to sink merchant shipping crossing its path. Postwar developments have changed this and have given the submarine new capabilities and new missions. It is common knowledge that the Soviets can now launch from their submarines missiles with ranges of at least 200 miles. It would take but a single such missile accurately placed to cripple any one of our seaboard cities. Before too long missiles from submarines will reach any target in the U. S. The best protection of our shores against missile-firing enemy submarines is in setting up submerged barriers of our own nuclear powered attack submarines which can destroy enemy submarines menacing our coasts.

We too are developing missile-firing submarines capable not only of firing air-breathing missiles but ballistic missiles with 1500-mile capability as well - the POLARIS. When these missiles and their launchers are installed in nuclear powered submarines we shall have weapons in our arsenal which may prove to be a real deterrent to war.

The NAUTILUS did not mark the end of a technological road. It marked the beginning. It should be compared with the first airplane that flew at Kitty Hawk.

For every problem we have already solved in the short history of nuclear power, a hundred problems remain to be solved.

The NAUTILUS, though only 3½ years old, has already inaugurated many new ideas and weapons. We are now building nuclear powered attack submarines whose performance will surpass even that of the NAUTILUS. The SKIPJACK, soon to go to sea, is expected to be the world's fastest submarine. We have already launched the TRITON, the world's largest submarine, whose powerful twin reactor propulsion plant will permit her to move in the vanguard of the fast carrier task forces, thus providing them with up-to-the-minute information needed for protection and successful attack. The land prototype of a small hunter killer submarine is nearing completion and the ship itself will be delivered in the not too distant future. Nuclear power plants are now being installed in REGULUS and POLARIS-firing missile submarines. We now have five nuclear powered submarines in operation, and 28 more authorized or under construction. And, it is significant that the SKATE, one of our second generation nuclear submarines, under the command of Commander Calvert, not only repeated the NAUTILUS transpolar voyage immediately but crossed the North Pole first east to west, then west to east, completing this double length trip without an incident.

Further, we are now developing nuclear propulsion plants for our surface fleet. In 1961 we will have at sea the first nuclear powered aircraft carrier, cruiser, and destroyer. These ships will be the prototypes for nuclear powered surface fleets which will provide our country with mobile bases capable of moving anywhere across the oceans of the world to protect our interests.

Looking at these achievements from the point of view of the short time that our first nuclear ship has been at sea, we might be tempted to be complacent. But when we consider the large numbers of Soviet submarines now

roaming the oceans and the great Soviet missile success, the 33 nuclear submarines built, building, or authorized are an alarmingly small protective force, particularly since our 110 conventional submarines are rapidly becoming obsolete, their physical plants decaying, and their usefulness in modern warfare decreasing far more rapidly than we are able to offset this disadvantage by sending new nuclear submarines to sea. Only 13 of our operating conventional submarines are less than 12 years old.

The voyage of the NAUTILUS under the North Pole is indicative of the lead we now have in the field of nuclear powered submarines. We enjoy today the same position in this field with respect to the Soviets that we once had with the development of the atomic bomb. We must remember that, in a much shorter time than predicted, the Soviets were able to match our atomic bomb capabilities and thus to throw the black shadow of total war over the world. We must not lose sight of the fact that our competitor has matured as a scientific nation and is today operating nuclear power plants in his own country. I do not know how long we will be able to maintain our leadership in nuclear powered submarines. I do know, however, that we will soon lose this leadership unless we intensify our efforts, and build rapidly upon the scientific foundation that produced the NAUTILUS and made her epic voyage possible. To rest now, with our adversary at our heels, would be fatal. Our nuclear powered ships and their manifold weapon systems are the one guarantee we now have to maintain freedom of the seas. We must not lose this race as we have lost others. Our survival as a nation may depend upon it.