

# The Innerspace Race—Where Is It?

Soapbox

Robert L. Wernli has worked as a mechanical engineer at the former Naval Ocean Systems Center since 1973. NOSC was absorbed into the new Command, Control & Ocean Surveillance Center last month—one of four major research centers the U.S. Navy created as part of its laboratory consolidation move. Wernli has been involved primarily in development and application of ROVs and work systems. He heads NOSC's Ocean Technology Branch. Wernli is more widely known for his Marine Technology Society activities during the past ten years and is the perennial chairman of the MTS Remotely Operated Vehicle Committee. He "fathered" the series of consistently successful international ROV conferences and has chaired all nine of them.



It seems sad that a country that has put men on the moon six times has only put men on the deepest part of the ocean floor once, and that was in 1960.

Contrary to popular belief, space is not the final frontier, the ocean is. And unfortunately, that very body of water that exerts the greatest influence on our daily lives and the future of the world is being largely ignored by those who are setting the policies and goals for the country.

It seems that those who are in a position to do something lack the vision to establish a national policy and commitment for ocean exploration, along with a program to support the education of those who will carry it out. This is particularly appalling at a time when our nation needs so desperately to improve its economic posture.

The oceans may well hold one of the keys to reaching that goal.

I've given many presentations to scientific groups and to students from elementary school to college, and I've always enjoyed the excitement they expressed when exposed to the new and fascinating technologies of ocean exploration, many aspects of which we take for granted. Unfortunately, this fascination is often due to their lack of knowledge of the ocean. They don't understand its vastness, boundless resources and energy, and its effect on the world they live in.

This was never made more clear than during an interview at the ROV '91 conference in Florida. After listening to a presentation on the possible discovery of the Bermuda Triangle's "Lost Patrol," seeing the exposition of high tech equipment and

talking to others who have recovered undersea treasure, a reporter asked "is there still anything left to find in the ocean?"

The answer was another question: "Is there anything left to find on land?"

His question underscores the ignorance of so many. When will it be grasped that the ocean covers 75 percent of the earth and that 3 percent of it lies below 20,000 feet, beyond the capability of today's submersibles. That 3 percent is an area equal to the continental United States, and we've been there only once. For only a few minutes. Historically, rather analogous to Columbus's landing on North America 500 years ago.

We are lacking the few key "visionaries" who can grasp the importance of the oceans and establish a national policy to explore them. A visionary like President John F. Kennedy who escalated the "space race" and put men on the moon in 1969, only eight years after he issued the challenge.

When will the government address "The Innerspace Race" and initiate a far-reaching program to explore and properly exploit the oceans. There is no reason why a consortium of companies in the financially competitive, free enterprise society of the U.S. can't group together in such a government-backed venture.

Yes, it will take significant funding; however, the amount is really minor when taken in the perspective of the national budget. Just redirect the funding from a single B-2 bomber, that would do nicely for the entire decade! And, when compared to the cost of the "space race," it's minuscule.

Cooperative ventures backed by other governments are commonplace. Canada is well known for its government support. Japan put more than \$100 million into their Advanced Robot Technology Research Association (ASTRA), which assaulted three high-risk technologies: nuclear, fire fighting, and undersea. And two new consortiums are now in existence in Europe to develop advanced autonomous vehicle systems with over \$50 million being invested.

Such international consortiums are a beginning and, with some focus, they could evolve into a joint international venture to open the vastness of the oceans to meaningful research with equally vast payback. Thus, the expenses need not be borne by only one nation. Through a cooperative program of technology transfer and sharing, all could benefit.

Not every country would have to build the extremely high pressure test facilities to certify their systems or be required to solve the energy problem independently. International cooperation should be able to flourish in today's changing political climate.

Not if, but when such a national program gets established, it must not neglect the educational aspect.

Along with the development of key technologies under such a program, the development of the future's "key technologists" is also critical. Those engineers and scientists who will be involved with deep ocean programs in the future are today's middle and high school students. Now is the time to educate them, interest them in the ocean, and open their eyes to its wonders.

The intrigue of ocean exploration will be there to encourage newfound interests. Jacques-Yves Cousteau gave us a good educational start with his expeditions, which have been highlighted on many television programs. Bob Ballard's recent discoveries of the *Titanic*, the *Bismarck*, and his other expeditions have educated many. Also, the Jason Project is one of the most advanced in the world in educating our youth, taking them directly to the operational site via satellite with the deep sea explorers themselves. Add to this the coverage of international disasters requiring the recovery of items from the deep ocean, treasure galleons being discovered, and more recently, insurance fraud, and the seeds of knowledge to educate those who know little of this fascinating technology abound.

Even with the increased media coverage, there is a long way to go in educating the public about the ocean. Today's youth are not as uneducated when it comes to outer space. There are programs like the "Young Astronauts" that give them the opportunity of be a part of the quest and several "space camps" that give hands-on training. Maybe it's time to begin an analogous "Young Aquanauts" program that can do the same thing for inner space.

An organized national ocean education program is long overdue.

The limitations that exist in reaching the ocean depths are primarily in the areas of establishing meaningful international goals and the political and financial support of them. We're not limited in technology, but we are limited in commitment. A combination of joint ventures and some good-natured competition can aid in the conquest of the ocean.

What is now needed is a long term commitment, first by the U.S. and next in association with other countries. Begin the cooperation with technology and funding and allow the competition to begin.

And, don't forget the key to the long term success of such an endeavor: The involvement and education of our youth, for they are the future. /st/