

# The Promise of the Seas' Bounty

**How the oceans' enormous riches can contribute to peace and help alleviate world poverty—if they are placed under U.N. administration now,**

By CLARK M. EICHELBERGER

**T**HE LAST GREAT FRONTIER for natural resources on our planet is the sea. It also may be the richest. Indeed, fragmentary exploration to date indicates that the wealth that ultimately can be obtained from the five-sevenths of the earth's surface covered by the sea may be almost beyond comprehension.

We know, for example, as noted oceanographer Roger Revelle stated in *SR* October 3, 1964, that lying on the deep sea floor are "incredibly large quantities of black, potato-shaped nodules" which contain manganese, cobalt, copper, and nickel whose gross recoverable values are estimated at \$45 to \$100 a ton. We know of nodules in shallow water off Southern California that are thought to contain as much as 60,000,000 tons of phosphatic materials; of titanium-bearing sands believed to occur off Florida, India, Japan, Australia, and elsewhere; of the mining of iron from magnetite-rich sand in shallow waters near Japan (7,000,000 tons of ore were extracted from the floor of Tokyo Bay in just one four-year period); and of diamond-bearing gravels off the southwest coast of Africa that yield about five carats per ton—five times the average in diamond fields inland.

This is only a sampling. But developments to date demonstrate that, unless action is taken soon, the world may face a power struggle for resources of the sea that could equal or exceed the struggle for the resources of Africa and

Asia in past centuries. Consequently, almost nine years ago the Commission to Study the Organization of Peace, research affiliate of the United Nations Association of the U.S.A., declared, "With respect to the bed of the high seas beyond the continental shelf and outer space, which are outside the jurisdiction of any state, we urge the General Assembly to declare the title of the international community and to establish appropriate administrative arrangements."

In 1961, the U.N. General Assembly, at the suggestion of President Kennedy, took some important steps in this direction in regard to outer space. It declared that "international law, including the charter of the United Nations, applies to outer space and celestial bodies," and that "outer space and celestial bodies are free for exploration and use by all states in conformity with international law and are not subject to national appropriation."

In 1963, the General Assembly fur-

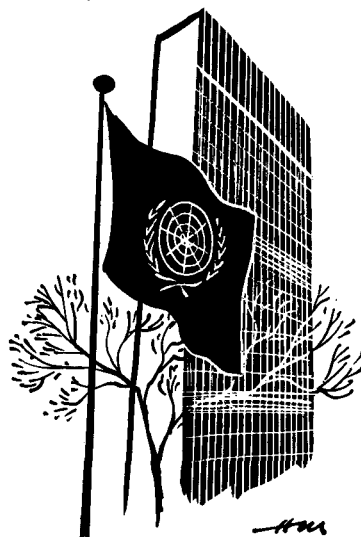
ther called upon all states "to refrain from placing in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, installing such weapons on celestial bodies, or stationing such weapons in outer space in any other manner. . . ." It also adopted a declaration of legal principles for exploration of outer space.

These steps point the way to possible parallel action by the U.N. regarding the sea.

There are compelling reasons for the U.N.'s taking such steps, some of which apply with equal force to the control of man's adventures in outer space. With the population of the world increasing at an explosive rate and with the rapid advance in industrialization, the food supplies and the mineral resources of the sea will be eagerly sought. The majority of nations do not have the technological capability to launch satellites or to gather minerals on the deep sea floor, and many of them cannot compete effectively for the fisheries of the high seas. However, the less advanced should be able to share in these resources as the common property of the world community.

In the absence of clear rights and boundaries, nations will unilaterally attempt to appropriate these areas for their own use. Such claims will reduce the area held in common by the world community and frequently lead to conflicts between nations — as witness the growing number of controversies over fishing rights, and disagreements that have accompanied the appropriation of the atmosphere and the sea for nuclear testing.

Resources such as fish, minerals on the ocean floor and the surface of the ocean, as well as the radio spectrum in outer



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space, can be exploited simultaneously by more than one firm or nation. But under these conditions, exploitation tends to be accompanied by rapid depletion, economic waste, and conflict.

Since the United Nations is not a full-fledged world government, how can it persuade nations to accept the proposed regime for the sea?

A sanction may be found where self-interest and the common good coincide. There are, for example, some fishery resources now so depleted that it would be to the self-interest of the few nations involved to agree to international control; and in the Antarctic, depletion of at least one species of whale has threatened that species with extinction. As for the untapped mineral resources of the deep sea, nations might prefer a U.N. regime to an anarchy under which they could not be certain of access.

**T**HROUGH cooperation, nations may actually be able to expand resources of the sea as they could not do themselves. Contrary to popular belief, as Christy and Brooks have said, there are regions of the ocean that are virtual deserts, "... regions where the plant nutrients have settled out below the euphotic zone. In such areas, it may be possible to establish artificial upwellings or to improve fertility by other means." Under such circumstances, it would be possible to "herd" fish—the kinds of fish that men prefer to eat. Obviously, no one nation is

going to undertake such an effort, but it could be undertaken through the U.N.

The mineral resources of the sea are relatively unknown compared to fishery resources. But the potential wealth in the nodules referred to earlier is well known. At least one boat is being fitted out in the United States to experiment with mining them. Other countries also are interested. However, nations may be reluctant to exploit such mineral resources if they are unsure of title. Further, uncontrolled efforts to extract these resources may disturb conditions in which fish thrive; and might interfere with the Atlantic cables. All are reasons for international ownership and control.

United Nations control also could reduce the danger of pollution. As population grows, man is more and more responsible for, as well as the victim of, the pollution of the atmosphere and water. Unregulated use of the air and the sea will increase the danger of contamination. There is also danger of contamination of the sea by radioactive material, pesticides, and other poisons on land. Contamination of the shared envelope of atmosphere is a matter of concern to all peoples.

Moreover, United Nations' title to operations in the sea could forestall a possible new military race. Without an international agreement, the military of each country may feel compelled on the basis of self-interest to carry defense to any new frontier opened to man. As

Navy Commander M. Scott Carpenter said at a recent meeting of aerospace engineers and scientists at Cape Kennedy, "one of the greatest hostile threats to this country might come from beneath the surface of the sea." The Soviet Union, and possibly other countries, may entertain the same fear.

Under the Antarctic Treaty of December 1, 1959, twelve governments, including the United States and the Soviet Union, agreed that Antarctica shall be used for peaceful purposes only. Military personnel or equipment may be used only for scientific research or other peaceful purposes. Thus there is precedent for an agreement, both in this and the U.N. General Assembly action in 1963 calling upon nations to refrain from placing in orbit nuclear weapons or other weapons of mass destruction. (Obviously, this recommendation would not affect the Polaris submarine or present conventional surface military vessels.) Some have suggested, too, that perhaps the U.N. should go a step further and institute a monitoring system to detect and report to the world underseas military activity.

But one of the most challenging reasons for United Nations control and administration of the sea is to provide the U.N. with an independent income. Some member nations now are reluctant to give the U.N. resources adequate even for its immediate, modest program. Despite the authorization of the Security Council for the peacekeeping force in Cyprus, for instance, it is only with the greatest difficulty that, at the end of each three-month period, the Secretary General obtains enough in contributions from individual states to maintain this force. Yet the work of the United Nations must be expanded many-fold if it is to meet the responsibilities that an ever more complex world has thrust upon it, including the great question of disarmament. Nations should not be excused from paying much larger assessments needed to maintain the organization—which to many powers means but a small fraction of their military budgets. However, assessments of the individual members should be greatly augmented by an independent source of income.

For the United Nations to have its own source of income and a vast area to administer would give it the kind of strength and maturity it needs to meet the tremendous problems of the future. Obviously, estimates differ widely as to the income that could be realized from U.N. licensing of resources in the sea and outer space, but the United Nations would gain enormously.

At the same time there would be provided a long-needed source of funds to help underdeveloped areas. Few nations today are in a position individually to exploit resources of the sea, even were

**The Seventeenth Report** of the Commission to Study the Organization of Peace, on which this article was based, discusses a number of important recommendations for strengthening world order. They include:

- ▶ The United Nations must become truly universal in membership so that all political units may play their parts in a world in which all are bound by law.
- ▶ Adjustment must be made between the principle of sovereign equality of states and power.
- ▶ The extensive lawmaking process which is now to be found in the United Nations must be expanded so that the General Assembly moves toward becoming a true legislative body in the international sphere.
- ▶ Machinery for peacekeeping, peacemaking, and collective security must be augmented.
- ▶ Heroic measures must be taken to arrest the growing gap between the developed minority and the undeveloped majority of nations.
- ▶ The United Nations' Secretary General must be protected from interference in the great responsibilities and leadership opportunities that have been thrust upon him.

The author wishes publicly to acknowledge the contribution of David B. Brooks and Francis T. Christy, Jr., of the staff of Resources for the Future, who were responsible for much of the material in the study on the resources of the sea, and have been liberally quoted in this article.

The Commission's Seventeenth Report will be the basis of three half-hour programs to be released this fall by National Educational Radio, with assistance from the Johnson Foundation, which also was host to committee members in Racine, Wisconsin, during drafting of the report. Persons interested in obtaining texts of the report should contact the Commission to Study the Organization of Peace, 866 United Nations Plaza, New York City, 10017.

—C. M. E.

there U.N. licensing and control. But if the sea were administered as the common property of mankind, all peoples could share it—for part of the licensing fees charged by the U.N. could be used to assist the nations now most in need of help.

How could all this be accomplished?

The Commission recommends that a specialized agency be created, the United Nations Marine Resources Agency: "This agency should control and administer international marine resources. It should hold ownership rights and grant, lease, or use these rights in accordance with the principles of economic efficiency and the well-being of mankind. It should distribute the returns from such exploitation in accordance with the directives issued by the U.N. General Assembly."

The agency should operate with the efficiency of the International Bank. It must inspire the confidence of those economic interests that would be dependent upon it.

As long ago as 1953, it is interesting to note, in an International Law Commission report to the General Assembly, the possibility of a specialized agency was contemplated, although with a much more limited purpose. Envisaged then was the establishment of an international authority within the framework of the U.N. with the power of adopting binding regulations for protecting the fishing resources of the sea against waste or extermination.

The broadcast of the *Internationale* from Luna 10 in early April indicates how brief the time may be before Soviet and American nationals make a landing on the moon. It points up the urgent need of implementing the 1961 resolution of the General Assembly that the celestial bodies are not subject to national appropriation.

The *New York Times*, in an editorial last April 5, suggested that there should be agreement that the moon is the property of all mankind and open for research by scientists of all nations. The editorial concluded, "Exploitation of any economic resources found on the moon could well be made a monopoly of the United Nations, with the profits used to finance the U.N.'s peacekeeping, welfare and economic-development activities. The conquest of the moon should serve to bring men together, not to divide them still further or to provide new grounds for conflict."

This is the spirit in which both the riches of the sea and man's adventure into outer space should be approached. But this spirit can be translated into action for the benefit of all mankind only if we encourage the United Nations to act now, with both the wisdom and foresight that must be applied to the problem.



"**This great area** covering five-sevenths of the globe contains abundant resources of food and minerals. The sea has been the means of communication by ship. Aggressive war has been waged by surface ships and submarines. Cables have been laid in the sea. Fish have been an important source of food. Man's greed is threatening this source. However, the bed of the sea where great resources are presumed to rest has scarcely been explored. . . .

"Both the sea and outer space involve vast opportunities for weather reporting and communications. Both provide means for transportation and adventure. Both may contribute to our knowledge of how the universe was created. . . .

"In the absence of clear rights and boundaries, nations will unilaterally extend their claims to these shared areas or attempt to appropriate the areas for their own use. Such claims reduce the area held in common by the world and frequently lead to conflicts between nations. The demarcation between areas of national sovereignty and world community rights must be clear. . . .

"No one can estimate now what the income to the United Nations might be from its granting licenses for the exploitation of the resources of the sea and the revenues which should accrue to it from outer space communications. It is estimated, however, that the amount of money to be realized certainly should make an important contribution to the budget of the United Nations. Furthermore, it should help pay for the expanded program of technical assistance to the developing states. In this way nations not technically able to take advantage of explorations and development of the sea and outer space would nevertheless receive some benefit in the form of technical assistance made possible by the exploitation of these common property resources."

—From the *Seventeenth Report of the Commission to Study the Organization of Peace.*



# IVAN TURGENEV:

## Romantic Humanist

By WILLIAM HENRY CHAMBERLIN

OF RUSSIA's three great nineteenth-century novelists, Ivan Turgenev, although the most universally readable, has enjoyed less appreciation than Tolstoy and Dostoevsky. He brought off no single work with the epic power and sweep of *War and Peace*. He did not search the darkest abysses of the human soul and pose eternal questions of morality and philosophy with the passionate urgency of Dostoevsky, especially in *The Brothers Karamazov*. Much of the rare beauty of Turgenev's prose style is almost inevitably lost in translation. This even applies to his titles: *Dvoryanskoe Gnyezdo* sounds rather stiff and unnatural in such renderings as *Noblemen's Nest* and *House of Gentlefolk*.

Yet Turgenev is unmistakably a great novelist, a worthy compeer of his intimate French friend and contemporary, Gustave Flaubert, to whose memory he dedicated one of his numerous short stories with an inscription from Schiller, "Wage du zu irren und zu träumen." ("Dare to go wrong and to dream.") If he never reached the towering peaks of fiction, he remains on a high plateau of uniform excellence. Unlike Tolstoy, he never forsook his art in pursuit of ethical and social ideals. Unlike Dostoevsky, he kept a steady sense of balance and proportion.

He stands out in the rich cultural history of the nineteenth century as a romantic humanist, a great Russian and a great European. Unlike the intensely Russian Tolstoy and Dostoevsky, he lived much of his life abroad and was at home in the cosmopolitan literary society of Paris, where his luncheons with Flaubert, Zola (whom he admired less), the Goncourt brothers, and other prominent literary figures were equally famous for wit, wide-ranging conversation, and gourmet delicacies. Turgenev was fluent in German, French, and English, was admired by Henry James as "the beautiful genius," and conceived an admiration for the United States, although he never carried out his expressed desire to cross

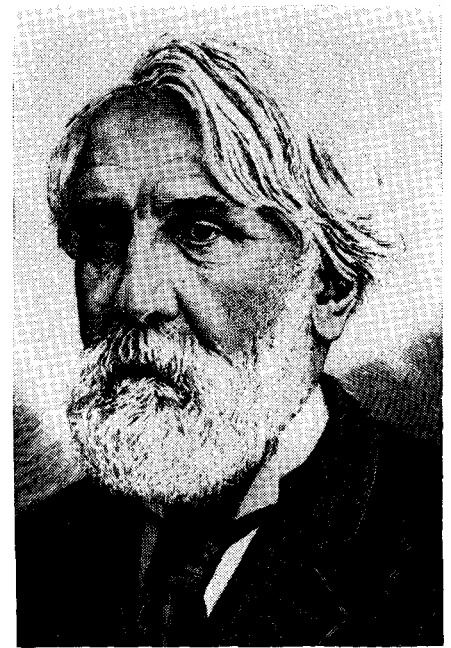
the Atlantic. But he prided himself on writing only in Russian, and one of the finest of the random sketches that have gone under the name *Poems in Prose* is a stately tribute to the Russian language:

In days of doubt, in days of painful meditation about the fate of my fatherland, thou alone are my prop and my support, O great, mighty, just and free Russian language. If it were not for thee, how could one escape falling into despair at the sight of all that goes on at home? But it is impossible to believe that such a language is not bestowed on a great people.

There is significance in the date of this tribute, June 1882. The comparatively liberal Czar Alexander II had been assassinated in the preceding year, and a regime of stern reaction gripped the country. Turgenev, who was himself to die at the age of sixty-five in 1883, after long agony from cancer of the spinal cord, had seen his hope for evolutionary progress in his native land frustrated.

ROMANTIC but not a sentimentalist in his writing, a humanist in the breadth of his international contacts, Turgenev was that rarest of Russian intellectual types, a liberal. Tolstoy paid little attention to the social ferment of his time, and Dostoevsky, after being sent to Siberia for belonging to a study group concerned with new ideas, vehemently rejected Western liberalism and turned into a passionate champion of Orthodoxy and old Russian beliefs. But Turgenev followed trends among the younger generation with a mixture of sympathy and skepticism.

His masterpiece, *Fathers and Children* (a more accurate translation than the more familiar *Fathers and Sons*), reflects the nihilist mood of some of the Russian students of the Sixties, a mood of questioning all accepted values and substituting a rather crude materialism for the somewhat affected niceties of upper-class social life. He received much unmerited abuse from the young rebels



—Bettmann Archive.

Ivan Turgenev—"a worthy compeer of . . . Gustave Flaubert."

who professed to regard Bazarov, the hero, as a caricature; but tolerance has seldom been a Russian virtue.

Turgenev returned to a social theme in a later novel, *Virgin Soil*. At this time—in the Seventies—there was a movement among the educated youth to "go to the people," to go into peasant villages for the double purpose of spreading literary and elementary health measures, and distributing revolutionary propaganda. The peasants viewed these strange city folk with suspicion, and handed over a good many of them to the police.

The two principal characters in *Virgin Soil* are Nezhdanov, a nobleman's illegitimate son and a radical young intellectual, and Marianne, a girl whom he meets in the country mansion where he is employed as a tutor. They are drawn together by similarity of ideas, by a common impulse to work for the overthrow of a corrupt social order. Finally they run away, with childlike naïveté, dreaming of going to the people with the gospel of social revolution. Poor Nezhdanov experiences a pitiful fiasco. The peasants cannot understand his high-flown phrases and he cannot stomach the strong vodka which he gulps down in an effort to fraternize with them. His love for Marianne is paralyzed by a sense of frustration. He commits suicide, leaving Marianne to the care of a mutual friend, Solomin.

The latter, a common-sense, self-educated peasant who has become a factory manager, is one of the practical figures whom Turgenev sometimes presents along with his Hamlet-like intellectuals, his Rudins and Nezhdanovs, who don't know what they want and won't be