## WAGING PEACE SERIES

As far as is known, the term "Waging Peace" originated with Warren Wells, late husband of Ethel Wells of Santa Barbara, in a letter to President Eisenhower. It was a long-standing practice of Mr. Wells to keep in close touch with key national figures and give them his views on peace issues as well as other vital matters. This series is dedicated both as a memorial to him and in gratitude to Mrs. Wells for her continued efforts in this cause.

Just as peace is more than the absence of war, waging peace is more than supporting arms reductions. In addition, it embraces positive steps toward genuine harmony. In this series the Foundation publishes and distributes short booklets stressing ideas for attaining peace. Concepts expressed will include views of many authorities, and will not necessarily be those of the Foundation.

Suggestions for topics and your reactions to this issue are welcome. Booklets in this series are available from the Nuclear Age Peace Foundation.

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# ATTACKING POWER WITH WISDOM
## The Need For Long-Term Thinking

by

**Jacques-Yves Cousteau**

Captain Cousteau receiving the Nuclear Age Peace Foundation's 1989 Distinguished Peace Leadership Award from Foundation President David Krieger, April 1989, Santa Barbara, California. Photo © Jeff Jones.

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## INTRODUCTION

Captain Jacques-Yves Cousteau, the recipient of the Foundation's 1989 Distinguished Peace Leadership Award, is a man of boundless energy and enormous creativity. He is an explorer, inventor, filmmaker and poet. He has been a pioneer in charting and documenting in books and film the awe and wonder of life, informing others of the dangers which confront us, and urging responsible action.

When Captain Cousteau speaks, he speaks for Earth and its varied life forms, for the present generation and those to follow. His life has been symbolic of Earth Citizenship. We are all, he says, "citizens of the water planet."

In 1935, a serious accident ended his flying career in the French navy. Aviation's loss was Planet Earth's gain, because Jacques-Yves Cousteau then embarked along a path that has led him to become one of the most passionate, articulate and influential friends the natural world has ever had.

Commander of the "Calypso," co-inventor of the Aqua-Lung and the first underwater camera for television transmission, Captain Cousteau has devoted his life's work to exploring, observing, recording and broadcasting to the world the vitality of the living sea. Over the years, he has become increasingly concerned with the deterioration of the quality of sea water and a significant reduction in the abundance of marine life. Convinced that our oceans — the largest part of the Earth's water system — are an endangered species, Captain Cousteau in 1973 formed The Cousteau Society, a non-profit, membership organization devoted to the protection and improvement of life on Earth.

As he so eloquently put it, "let us take our inspiration from dolphins, who defend themselves and their offspring through an instinct to mass together in the face of danger ... and to attack power with wisdom." In a world where power all too often reigns, Jacques-Yves Cousteau is a highly visible, effective and persuasive force for peace and life.

Director of the Musée Océanographique of Monaco from

1957 through 1988, Captain Cousteau was awarded the Légion d'Honneur for his part in the Résistance during World War II. One of the few foreign members of America's prestigious National Academy of Sciences, he was the co-recipient of the International Environmental Prize awarded by the United Nations for outstanding contributions in the field of the environment. He has been granted honorary Doctor of Science degrees by the University of California at Berkeley, Brandeis University, Rensselaer Polytechnic Institute and Harvard University. Recently, he was inducted into the Academie Francaise.

Like the persistent tides of which he wrote, Jacques-Yves Cousteau's moral authority knows no boundaries; it pushes against all the varied shores on Earth and reminds us of the values and priorities that will assure the survival of our planet for future generations.

Following his speech at the Sunken Gardens of the Courthouse in Santa Barbara, California, upon receving the 1989 Distinguished Peace Leadership Award, Captain Cousteau warned: "The time has come when speaking is not enough, applauding is not enough. We have to act. I urge you every time you have an opportunity, make your opinions known by physical presence. Do it!"

David Krieger
President
Nuclear Age Peace Foundation

# ATTACKING POWER WITH WISDOM
## The Need for Long-Term Thinking

### by Jacques-Yves Cousteau

### SHORT-TERM AND LONG-TERM THINKING

We have recently experienced two events which show clearly the significance of short-term thinking and long-term thinking. In Alaska on March 24, 1989, the Exxon Valdez sank, spilling 11 million gallons of oil. In the Norwegian Sea on April 8, 1989, a Russian nuclear submarine sank. Newspapers reported that the Valdez was the most catastrophic environmental disaster of all time. It is a disaster—for Alaska, for the environment, for the people who make a living from the exploitation of the sea. It is a disaster for the birds, for the sea otters, for the animals that live in this area of the world. But we lived through a disaster four times greater in quantity in Brittany eleven years ago with the disaster of the Amoco Cadiz. The big lesson of both these disasters is that, although we suffer tremendous losses, oil is basically and fundamentally biodegradable. Ten years from now, the Valdez will begin to be forgotten. People will fish again. And even if the environment is slower to recoup because of the cold waters, it will recoup.

On the contrary, the Russian submarine sank in very deep water. There is nothing to see, no visual offense to report. The Russians claim that the fire that caused this disaster did not damage the nuclear furnace which sank intact. In that case, even if the submarine is not going to be dangerous immediately, it's a time bomb for the future. It will decay. Sooner or later, the plutonium or the uranium will leak out. Sooner or later, it will threaten our grandchildren, our heirs. And by then they may not even know it is there.

All our attention is focused on a short-term accident, the Valdez. But very little is said about a decaying nuclear submarine in our waters and what it represents.

But there is more news. On April 28,1989, a 274,000-ton tanker, the Kanchanjunga ran aground in the Red Sea, one of the

most beautiful places in the world to dive. In the first day alone, one-and-a-half-million tons of oil leaked. So another oil spill accident is added to the Valdez and to the Valpariso accident in the Antarctic.

The multiplication of these accidents is because the transportation of dangerous material is not regulated by appropriate international laws. Various nations have their own regulations. But all nations, including the United States, France, etc., are extremely reluctant, and even opposed, to delegate even a small parcel of their national sovereignty to an international body, which is the only way to have international regulations for transportation of dangerous material.

We have talked about oil. But let's look at a dangerous material like, for example, tetraethyl lead or other very dangerous products that are stored on board ships and transported across the oceans. For one thing, ships that carry these hazardous materials should be very maneuverable, and a ship that weighs 250,000 tons cannot be maneuverable. When the crew puts the engines full astern, it takes almost four miles to stop the ship, which means that there is danger of a collision. If the captain puts the wheel full to starboard, nothing happens for 30 seconds, after which the ship begins to turn. So this inertia of very large ships makes them improper for the transport of dangerous material.

Most of these tankers, although the Valdez was not in this case, travel under a flag of convenience which enables them to have any crew they want, including the incompetent. The Valdez, however, was under American flag. The flaw was that the captain was an alcoholic and the third mate did not have proper certification. But apart from this question of flags of convenience and proper qualification of crews, all ships travel with only one officer on watch on the bridge. Passenger planes are required to have two officers, one captain and a co-pilot, both of them at the wheel. With dangerous materials, we should have two officers, not one, on watch at the same time on the bridge.

Most tankers also have only one single hull. The Valdez had separate tanks, which is almost as good as a double hull, and I understand that the Kanchanjunga had a double hull, so the load was not all lost. But both of them had only one engine, one propeller, and that's wrong when dangerous materials are



involved. Both of them had only one steering mechanism, which is also a danger because if it's damaged, then the ship is impossible to control.

There are many rules that should be implemented for carrying dangerous material. But what about nuclear waste? When one of the old ships that carries nuclear waste from Japan to France, for example, runs aground, what will happen to the tons of plutonium littered on the shore for 150,000 years? In order to avoid such accidents, we have to urgently implement new regulations on the transport of such deadly materials.

There is another danger. During the last year of the Reagan administration, contracts were signed to sell nuclear fuel to Japan. How is it going to be transported? By air. Air transport regulations currently oppose that, but amendments are being prepared to modify the regulations in order to allow transportation of nuclear waste and nuclear material by air—a complete disaster in case of accident. The concern of the Nuclear Age Peace Foundation and The Cousteau Society is that not enough attention is being given to long-term dangers, and maybe too much is given to immediate events, headlines, the scoop. A big accident is awful, but the real news is the truth about those incidents that endanger the very existence of our young children. This is what we have to fight to know.

## A COMMON DENOMINATOR

A common denominator in every single nuclear accident — a nuclear plant or on a nuclear submarine — is that before the specialists even know what has happened, they rush to the media saying, "There's no danger for the public." They do this before they themselves know what has happened because they are terrified that the public might react violently, either by panic or by revolt. I think such reactions would be very healthy indeed.

It is striking that the pioneers of nuclear phenomena have been extremely worried about the consequences of their findings. The first scientist to witness the fission of an atom, Szilard, reacted by tears, fearing that the release of such power could fall in the hands of tyrants. Einstein and Oppenheimer had concerns about the use of this energy in war, but even so, Project Manhattan was

created.

In France, there was another kind of reaction. Before the war in 1935, Joliot Curie thought that he had invented the nuclear bomb. He submitted a patent to the Patent Office, a public patent about how to make a nuclear bomb. The patent was granted, but a question was posed as to who would get the royalties: the user or the victim? These are the questions we need to ask.

In 1958, I hosted a Nuclear Atomic Agency meeting in Monaco on the subject of the disposal of nuclear waste. There were many atomic technicians who defended nuclear electricity by saying, "The waste will be a problem, but we have to proceed because we will later find a way to deal with this." That's the syndrome of Saint Exupery. Saint Ex believed we would always find a way to correct the damage we have created. But to build a machine before there is a way to control it is, of course, criminal.

During this meeting, a very famous American scientist from the National Academy of Sciences had lunch in my home. My mentor, Louis Fage, was also there. The American scientist defended the future of nuclear energy, saying to me, "Jacques, this energy is necessary for humankind, and we will build it, even at the cost of closing all the oceans to human activity." We were terrified. Louis Fage came out of this lunch white like an aspirin tablet.

## TAKING ACTION

Soon after that, the French government decided to dump nuclear waste from Marcoule into the Mediterranean. At the Oceanographic Institute in Monaco and under my direction, none of us slept for several weeks. We were busy alerting the population of every single village and town on the route of the train that nuclear waste was to be carried to the harbor of Marseille to be dumped in the ocean. The campaign was so successful that thousands of people lay down on the train track from Marcoule to Marseille. The train was obliged to go back with its villainous cargo. The hangar in which they had to store the nuclear waste in is still called the Cousteau hangar. I did not give them authorization for the name, but that's okay.



As a consequence of this, I met with the Atomic Agency in Vienna and signed an agreement to host the International Marine Radioactivity Laboratory at the Oceanographic Institute in Monaco so that at least I could know what was happening. The laboratory studied the effect of bioconcentration of nuclear products in the food chain and it showed how the concentrations could be dangerous for people.

Then came the fury about the breeder reactor. Creys-Malville in France was the site chosen to build the Phoenix and then the Superphoenix, the first nuclear breeders for energy exploitation. Of course, I was among the most violent objectors.

We organized demonstrations on the site, but French police used tear gas to disperse us, and the Superphoenix was built. Less than one year after its completion, a tremendous leak occurred in the liquid sodium tank that was supposed to cool the breeder, and they stopped the reactor. For more than one year, they could not correct the leak. They finally passed over the leak problem and reactivated the breeder reactor without the sodium tank by using emergency cooling chains of sodium, a decision which represents a tremendous danger.

These incidents seem to be an internal affair for France, but they represent an international threat as was the case for the famous accident of Chernobyl. It was also the case in America with Three Mile Island, but Chernobyl was more serious, a real disaster. Even so, the Soviet Central Agency for the Safety of Population Against Radiation reassured communities, even before the experts knew what was going on. And they have continued to do so until recently. But in Monaco, we measured the fallout from Chernobyl on the south of France and could guarantee that, at least at that time, there was a danger for the people of the south of France. A number of farm products were dangerous to consume but were consumed later because of reassuring communiques.

## THE TRAGEDY OF THE TECHNOCRATS

The tragedy is that those technocrats believe that the public is not able to understand problems, that we are children and have to be talked to like ignorant children, that the technocrats are the only ones to know what to do. It is not true. They don't know what

they are doing.

There is, in France, a new nuclear plant being built in Nogent, 55 or 60 miles from Paris on the Seine River. News of this, after Chernobyl, was very disquieting for the population of Paris because an accident in Nogent would be a complete disaster for all of Paris. My friends from the French television channel Antenne 2 interviewed the director of the plant in a segment to be shown at the end of a documentary on Chernobyl. They asked the Nogent plant director what the plan was in case of an accident. He said, "Oh, here an accident is not possible, of course." The interviewer responded, "But if it were, Paris would be impossible to evacuate." The director said, "Oh, yes, I know. We can't evacuate Paris." "Then what will you do?" He scratched his head and said, "Well, we will give advice to the public." "What kind of advice?" "Well, for example, to close their windows."

How have we arrived at this low point in the long process of developing nuclear energy? Was there really that fast a need for nuclear energy? Was the uranium fission system of generating energy the only one? No. There are others, and they have not been developed. They have not even been studied in depth. Why? Because the first application of nuclear science was the bomb that exploded on Japan, and that heritage is spoiling everything else. The military developed nuclear energy by uranium fission because it yields uranium and plutonium, which are the fuel for bombs. By developing civilian nuclear energy, they are camouflaging part of the expense of the nuclear bomb, an expense which would be too great a strain on the military budget for any Parliament or Congress to vote for it.

Then came the testing of bombs because they wanted to make hydrogen bombs and multimegaton bombs. In 1962 and 1963, the Russians started atmospheric tests and a year later, the Americans began the same series of nuclear tests. In Monaco we had a laboratory to measure radioactivity in the air and in rainwater, so we mounted a piece of paper on a wall. The first time nuclear tests in the atmosphere were conducted, we tested for it and noted the measured radioactivity on that piece of paper. But very quickly, our measurements went off the paper and all the way up our wall to the ceiling. We had not put up enough paper, so we drew on the wall. We knew that the levels of radioactivity in the atmosphere and in rainwater were extremely dangerous for humankind in



1962 and 1963.

## THE LIVES OF 50,000 CHILDREN

In 1965 I invited Professor Zenkevitch, the president of the National Academy of Sciences of the USSR and a member of the Advisory Committee of the Oceanographic Institute to have lunch with me at UNESCO. He was a fine gentleman, fluent in several languages. Four of us had lunch and we spoke about many things, mainly oceanography. After cheese, we had ice cream. I couldn't wait anymore and asked Zenkevitch, "Why did you do those tests? Did the Academy of Sciences make the government aware of the consequences of those tests?" He looked at his ice cream and answered, "Yes, the government asked the opinion of the Academy of Sciences. We worked on the project and warned the Russian government that it would probably cost the lives of 50,000 children in the USSR alone. The government answered us that if they did not make the tests, it would possibly cost many more lives." And then he wept, and I saw and still see his tears falling in his ice cream.

## THE PROBLEM TODAY

The problem today is to know if science is going to be able to develop a way of getting energy from nuclear reactions without making bombs and waste, to use nuclear science for the benefit of people without the danger of nuclear waste, without the danger of bombs.

The problem is to get rid of the arrogance of technocrats. We want to know the truth when an accident occurs. And we want to fight. We want the right of all people to decide on what risks they will or will not take, to protect the quality of life for future generations.

*"There are no boundaries in the real Planet Earth. No United States, no Soviet Union, no China, no Taiwan, East Germany or West. Rivers flow unimpeded across the swaths of continents. The persistent tides — the pulse of the sea — do not discriminate; they push against all the varied shores on Earth."*

***CAPTAIN JACQUES-YVES COUSTEAU***


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