



Photo: Frank S. Todd

A python on my pillow, a panther in the pantry!

Laurie McFarlin Rollings grew up surrounded by "orphans" from the zoo in San Antonio where her father was on the Board of Directors. She became friends with lions and monkeys, cheetahs and canaries. Now Laurie is Chairperson of the Board of the Aspen Research Institute (ARI), an organization she and her husband, Rolfer Dean Rollings, founded in 1981. Laurie's fondness for animals and some remarkable experiences that Dean had at Esalen during the early days of Rolfering have evolved into a project which could save the lives of thousands of dolphins killed each year during tuna fishing operations.

A close associate of Dr. Rolf for many years, Dean was given an "assignment" by Ida regarding one of her favorite topics, evolution. Dean's "homework for Ida", which continues to this day, was to explore the concept that technology has become the dominant force in man's evolution.

Technology is a sword with two edges: one with incredible potential to enhance our lives and one with equal potential to lead us to destruction. On the one hand is the

hope that appropriate energy fields may provide the stimulus that will enable lost limbs and damaged organs to be regenerated. In contrast to this is the realization that our power distribution system, radar, microwaves, and other wonders of technology produce electromagnetic pollution. Dr. Robert O. Becker, author of *The Body Electric*, has suggested that electromagnetic pollution may be a million times as significant to man as air or water pollution. A part of the seriousness of electromagnetic pollution is that it is invisible and all-pervasive, extending into every nook and cranny of our bodies. It is produced by household devices which have been around so long that we hardly notice their presence. A further realization is that the biological effects of electromagnetic field may not show up for as many as six generations. We are all part of a great experiment to determine the effects of generations of exposure to electromagnetic fields from a wide variety of sources.¹

Recently we have all become aware that by-products of our technology are threatening the very fabric of life on our tiny planet. All of us are now participants in a struggle that will determine man's future. So delicate and unpredictable is the

Rolfers Initiate Dolphin Research

by James L. Oschman, Ph.D.

tapestry of nature that the extinction of a single obscure insect might forever seal the fate of man. All creatures are sacred. For a while, we were concerned about the "quality of life" for our grandchildren. Now we are wondering whether there will be any grandchildren!

The situation has been expressed by Penelope Bishonden who writes,

The voice of the voice of the lion and whale are inseparable parts of human racial memory....

When they die, we die. If we continue to mis-handle the by-products of our civilization such as radioactive waste and unchecked real estate development, there will be no open land left for human beings, let alone animals. I believe the Great Spirit gave us this earth to cherish, and everything we do for wild animals counts. I'm not looking for a heavenly reward, I simply want to do what's right while there's still a chance.

Those of us who have worked with Aspen Research Institute over the years share an interest and concern about these aspects of technology, and we have followed the sometimes dramatic developments that have taken place during the last decade.

A small but visible aspect of this process concerns the dolphin. In the 1960's the tuna industry deployed a new technology for catching tuna in the Eastern Tropical Pacific. Huge vessels called

continued next page

¹ See a series of three articles entitled "Annals of Radiation" by Paul Brodeur in *New Yorker Magazine*, (June 12, 19, and 26, 1989).

² *Women and Work: Photographs and Personal Writings*, ed. Maureen R. Michelson (Pasadena, California, 1986), pp. 134-135.

purse seiners cast mile-long nets around dolphins. For some unknown reason, large schools of yellow fin tuna swim under the dolphins. The purse seiners draw in the nets with long ropes and cables. In the process, dolphins become caught in the nets. Since they are mammals and have to breathe, many dolphins perished from asphyxiation. How many dolphins have died as a consequence of tuna fishing operations during the last twenty-five years? The estimate is seven million.

From his experience in working with Dr. Valerie Hunt on the UCLA study of Rolfling in the early 1970's, Dean conceived an approach to the tuna/dolphin problem. Among other discoveries, Dr. Hunt found that emotional states are correlated with fields that emanate from the body. Each emotional state has a corresponding set of frequencies. Could the dolphins be frightened away from the tuna nets, Dean suggested, by using a device that produced frequencies associated with fear? Perhaps a small device could broadcast the appropriate signal into the water and separate the dolphins from the tuna.

In 1981, Dean and Laurie founded the Aspen Research Institute which had several purposes: to develop research programs to study Rolfling; to solve the tuna/dolphin problem; and to do research on electromagnetic medicine and electromagnetic pollution. A broader propose was to provide leadership in solving problems created by technology.

To launch ARI, Dean and Laurie chose a Board of Directors consisting of Michael Salvesson, who was then President of the Rolf Institute; Alan Demmerle; Julian Silverman, who was Director of Research at Esalen Institute and a close associate of Dr. Rolf during the early years of Rolfling; Dick Price, Director of Esalen at the time; and Andrew Quiat, an attorney from Denver, Colorado. I was hired as a staff scientist, along with a well-known dolphin researcher and radio astronomer, Dr. Gerrit L. Verschuur.

Gerrit had worked with John Lilly, M.D. in setting up a computer program known as JANUS which was intended to establish communication between humans and dolphins. Gerrit had done the first analysis of signals from nearby stars to determine if they contained electromagnetic signals that could be attributed to human life.³

His expertise for a dolphin project arose from his consideration of the similarity between communicating with dolphins and communicating with extra-terrestrials.

Julian Silverman spent six months preparing a detailed protocol for research on Rolfling. While the project was too expensive for the Rolf Institute to fund at the time, the strategy Julian developed was and still is worthwhile. However, in my view, just as important as his research protocol was an essay on structure that Julian prepared to go with his proposal. I continue to find Julian's words inspiring and insightful.

Gerrit and I explored various ways of approaching the tuna/dolphin problem, but the initial funding for the project ran out. During the years 1983-1987, Dean and I discussed dolphins from time to time; and Dean continued to spread the word about our interests. Finally in 1987, Dean met Greg Mosher in Aspen, and Greg decided to take the dolphin research to the next level by supporting a symposium. On August 1 and 2, 1987, dolphin researchers and other scientists met for two days in Aspen at the Hotel Jerome.

The outcome of this symposium was a decision to study interspecies communication. We were particularly intrigued by the repeated observations of apparent "telepathic" communications between dolphins and humans and thought scientific study of this phenomenon could be quite interesting. During this symposium, I learned for the first time of innovative work involving exposure of autistic children to dolphins.

Greg Mosher funded the next step, which involved developing a detailed research plan, which was

submitted to various groups. The Institute of Human Development in Ojai, California, found the project to be quite exciting and provided a grant that enabled us to continue our research. Additional support from R.J. Reynolds, Jr., the North Star Foundation, Dean and Laurie Rollings, and various individuals enabled us to refine the dolphin research program.

Then, last year, we learned that the H.J. Heinz Company, owners of StarKist Seafood Company, had inquired with Carnegie-Mellon University, also in Pittsburgh, about finding scientists with approaches to solving the tuna/dolphin problem. We communicated our interest via Carnegie-Mellon University; and this winter we met in the Florida Keys for several days with Dr. William Kaufman, Vice-President of Research for the Mellon Institute. Dr. Kaufman reviewed our ideas about the dolphin problem and gave us invaluable advice on how to set up the research project and prepare a proposal for Heinz. In March 1989, we submitted a final proposal to Dr. Kaufman, who passed it on to Heinz, who then passed it on to StarKist. StarKist found the proposal sufficiently interesting to send their General Manager to Pittsburgh to meet with Dr. Kaufman and the scientific staff of ARI. Presently, we are completing the final arrangements of a procedure for StarKist to fund the project, with Carnegie-Mellon monitoring the research as it develops.

Our research plan has evolved considerably from the original intention of frightening dolphins away from the tuna nets. We now know the dolphins are already frightened by the sounds from the purse seiner and by the activities of the fishermen, and that *calming* the animals is a better approach.

We have also learned the value of a certain class of signals known as the Schumann resonance, which have produced predictable behavioral and physiological changes in a variety of organisms. The fundamental

continued next page

³"A search for narrow band signals from 10 nearby stars". *Icar* 19:329-340, 1973.

frequency of the Schumann Resonance averages 7.83 cycles per-second. This is the resonant frequency of the atmospheric cavity formed between the surface of the earth and the lower boundary of the ionosphere. Scientists at the National Bureau of Standards have monitored the Schumann frequencies since the early 1960's. The signals approximate the human brain alpha wave, a frequency that has been associated in humans with a relaxed yet alert state of mind. Medical researchers have used various bio-feedback devices to promote the alpha state and documented its physiological benefits, including both pain and stress reduction. Signals of this frequency can entrain the brain waves, leading to relaxation. Tibetan monks have chants and musical instruments that resonate at this frequency. Likewise, the Schumann resonance is approximated by the vibrato of the great tenor, Enrico Caruso, who literally mesmerized his audiences. Finally, as reported in *Rolf Lines* last year by Dr. John Zimmerman, the Schumann frequency has been detected by Dr. Robert Beck in the biomagnetic field of a variety of healers performing "laying-on-of-hands."

A part of our research, then, will involve introducing the Schumann Resonance into the water to see if we can bring the dolphins to a more relaxed yet alert and responsive state. We also will be testing other signals that we think can attract the animals. Our plan is to develop an underwater beacon that emits a set of signals that calms the dolphins and attracts them to safety beyond the tuna nets. Accomplishing this will make the task of the tuna fishermen easier---they have no interest in capturing dolphins---and it will save countless of these harmless, intelligent animals from an unpleasant death.

Our research will be done at various dolphin research centers, beginning at the Dolphin Research Center (formerly the Flipper Sea School) on Grassy Key in Florida. Here there are about fifteen well-trained, healthy dolphins that have been used in a wide range of fascinating research projects. One of the most exciting studies now going on involves exposing autistic and other handicapped children to

dolphins. Researchers such as Dr. Betsy Smith and Patti St. John have found that dolphins have remarkable effects on children, often alleviating their physical and emotional problems.

Our initial research will involve recording all of the signals that emanate from dolphins, including sounds, electric and magnetic fields, electromagnetic fields, light, etc. We are convinced that the well-known acoustic channel is not the only means of communication used by dolphins. Gaining an understanding of other frequencies will contribute to the total dolphin-communication picture and thereby have direct application in solving the tuna/dolphin problem. The equipment we obtain with funds provided by StarKist will be used for a variety of biomedical researches involving dolphins, humans, and other species.

To carry out the research, we have obtained the help of a number of very distinguished and talented scientists. Our project engineer is Dr. Eldon Byrd, who has had extensive experience with underwater measurement during his work with the Navy. Eldon was the technical advisor for a fascinating and readable novel entitled *The Maze* by Larry Collins. *Maze* is the story of a KGB effort to remotely control the emotional state of the U.S. President by use of electromagnetic fields. Although the book is fiction, the concepts underlying the story are technically accurate and plausible and give an insight into recent world-wide research on biological fields.

We are also fortunate to have the help of Dr. Philip Callahan, a well-known naturalist who has done pioneering research on insect communications. Among other things, Dr. Callahan has discovered that insect pheromones are more than scent molecules: they appear to emit electromagnetic fields that can be picked up by the insect antenna, which is a true radio antenna. This can explain how a male insect can locate a female, even when the wind is blowing the "scent" away from him. The male insect homes in on the female using a method that is similar to a radio direction-finder. Dr. Callahan's research is described in a highly recommended book entitled *Tuning in to Nature*.

We also have an extensive group of advisors and consults for the project who will help us when needed. One of these advisors is the Nobel Laureate physicist David Bohm.

When I discussed the writing of this article with Anna Hyder, she said she had been thinking about the dolphins and how they might learn from each other about escaping from the tuna nets, once we had provided them with an appropriate signal to orient and attract them. The notion that dolphins might teach each other reminded me of an observation of interest to Rolfers made by Jacques Cousteau:

An Underwater Congress

In 1955, when we were filming *The Silent World*, we left the Seychelles and headed toward Amirante Island in the Indian Ocean. *Calypso* dropped anchor on the leeward side of the reef and remained there for two days while we dived. We noticed that, every morning at about ten o'clock, a school of dolphins passed near *Calypso*, apparently on a swimming tour of the reef. I wanted to follow them, and since it seemed unnecessary to use *Calypso* for this, Frederic Dumas and I set out in one of our launches. To this day, I have not forgiven myself for not taking a camera. On the other side of the reef, we saw a dolphin rise to the surface to breathe and then let himself sink down onto the water again, without swimming. We inched forward in the launch until we were as close as we dared go, then dived. On this occasion, the dolphins did not flee as soon as we got into the water. From the surface---we did not have our Aqua-Lungs with us---we looked down and saw them turn their heads and star at us. The sight that greeted us was one that we have never seen again. There were about fifteen dolphins---probably the school that we had seen going past *Calypso* every morning---in the crystal-clear water, on the side of the reef. They were *sitting* on the bottom, in a group, as though they were holding a conference. I say "sitting"; I mean they were literally poised on their tails.

continued next page

They remained where they were, stirring a bit and looking at one another. Then they continued with their meeting. But when we tried to move in closer to them, they swam away immediately. It was a unique and extraordinarily impressive sight.

The truth is that I still have no idea what they were doing. I cannot even offer a plausible explanation for the "congress" Dumas and I witnessed except to say that it did not appear to have anything to do with mating. I have described it only because I think Dumas and I are the only humans ever to have witnessed behavior of this sort among dolphins.⁴

I offer this story for two reasons. First, Dean Rollings is convinced the consciousness of the dolphins is primarily a group consciousness. Repeated experiences indicate that the dolphin pod functions as a unit rather than a collection of individuals. This is in contrast to the way we humans spend virtually all of our time, in an individual mode of consciousness. Secondly, it is fascinating that the dolphins were in a vertical orientation in their "congress". One could speculate that it is in gatherings of this sort that the animals learn from one another. This has been a brief sketch of the dolphin project, how it came about, and a few of our ideas. The project arose largely within the context of Roling.

There are several successful principles that we have relied on in developing the project. One is that to study communication, we need to look at the whole picture, not at just one aspect such as acoustic communication. Another principle involves the working together of individuals who superficially appear to be antagonistic. We see a solution of the

tuna/dolphin problem emerging from the combined efforts of the tuna industry, philanthropists, environmentalists, the concerned public and scientists. In the process of developing an approach to the problem, we have recognized that while there is widespread concern about the plight of dolphins and significant public pressure to "do something", there are very few groups such as ours with effective ideas, expertise, and willingness to actually undertake a solution.

The equipment and expertise we develop for this project will be invaluable for solving the problems of other species threatened by technology. We will also have the means to examine the various healing signals that dolphins appear to produce.

Several Rolfers have offered to contribute their time and energy to the project, including William Kaye and Tom Myers. Others of you may also wish to become involved. One way to learn more about the plight of the dolphins is to join the Earth Island Institute which has done pioneering work on behalf of dolphins. They have published a report entitled *The Tragedy Continues*, which is available from them for \$4.95. Earth Island also publishes an excellent quarterly journal about dolphins and other threatened species; annual membership is \$25.

Earth Island Institute
300 Broadway, Suite 28
San Francisco, CA 94133 USA
Tele. (415) 788-7324.

Another way to be involved is to write us or to contribute to our research:

World Dolphin Research Project
Aspen Research Institute
Post Office Box 2637
Marathon Shores, FL 33052 USA
Tele. (305) 743-9129

Acknowledgments

I want to thank all who have contributed their knowledge and understanding and inspiration to the development of our projects. In addition, we are indebted to Maureen R. Michelson, New Sage Press, for permission to quote a passage from Penelope Bishonden's essay in *Women and Work: Photographs and Personal Writings*.

Photo credit: The picture of the dolphins at the beginning of this article is taken from page 16 of the children's book entitled *The Sea World Book of Whales* by Eve Bunting.

Bibliography

- Brodeur, Paul. "Annals of Radiation." *New Yorker Magazine* (June 12, 19, and 26, 1989).
- Bunting, Eve. *The Sea World Book of Whales*. New York: Harcourt Brace Jovanovich, Publishers, 1980.
- Callahan, Philip. *Tuning in to Nature*. Old Greenwich, Connecticut: Devin-Adair Company, 1975.
- Collins, Larry. *The Maze*. New York: Simon & Schuster, 1989.
- Cousteau, Jacques-Yves. *Dolphins, The Undersea Discoveries of Jacques-Yves Cousteau*. New York: Arrowood Press, 1974.
- Michelson, Maureen R., ed. *Women and Work: Photographs and Personal Writings*. Pasadena, California: New Sage Press, 1986.
- Verschuur, Gerrit L. "A search for narrow band signals from 10 nearby stars." *Icarus*, 19 (1973), 329-340.
- Zimmerman, John. "Study Finds Healers' Frequency Same as Earth". *Rolf Lines*, XVI:5 (Nov/Dec 1988), 12-13. ■

⁴ Jean-Yves Cousteau, *Dolphins, The Undersea Discoveries of Jacques-Yves Cousteau* (New York, 1974), pp. 21-23.