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Man and the Porpoise: Two Solitary Destinies

LOREN EISELEY

THERE IS NOTHING MORE ALONE IN THE UNIVERSE THAN MAN. He is alone because he has the intellectual capacity to know that he is separated by a vast gulf of social memory and experiment from the lives of his animal associates. He has entered into the strange world of history, of social and intellectual change, while his brothers of the field and forest remain subject to the invisible laws of biological evolution. Animals are molded by natural forces they do not comprehend. To their minds there is no past and no future. There is only the everlasting present of a single generation—its trails in the forest, its hidden pathways of the air and in the sea.

Man, by contrast, is alone with the knowledge of his history until the day of his death. When we were children we wanted to talk to animals and struggled to understand why this was impossible. Slowly we gave up the attempt as we grew into the solitary world of human adulthood; the rabbit was left on the lawn, the dog was relegated to his kennel. Only in acts of inarticulate compassion, in rare and hidden moments of communion with nature, does man briefly escape his solitary destiny. Frequently in science fiction he dreams of worlds with creatures whose communicative power is the equivalent of his own.

It is with a feeling of startlement, therefore, and eager interest touching the lost child in every one of us, that the public has received the recent accounts of naval research upon the intelligence

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of one of our brother mammals—the sea-dwelling, bottlenosed porpoise or dolphin.

These small whales who left the land millions of years ago to return to the great mother element of life, the sea, are now being regarded by researchers as perhaps the most intelligent form of life on our planet next to man. Dr. John Lilly, of the Communications Research Institute in the Virgin Islands, reports that the brain of the porpoise is 40 per cent larger than man's and is just as complex in its functional units. Amazed by the rapidity with which captive porpoises solved problems that even monkeys found difficult, Dr. Lilly is quoted as expressing the view that "man's position at the top of the hierarchy [of intelligence] begins to be questioned."

Dr. Lilly found that his captives communicated in a series of underwater whistles and that, in addition, they showed an amazing "verbalizing" ability in copying certain sounds heard in the laboratory. The experimental animal obviously hoped to elicit by this means a reproduction of the pleasurable sensations he had been made to experience under laboratory conditions. It is reported that in spite of living in a medium different from the one that man inhabits, and therefore having quite a different throat structure, one of the porpoises even uttered in a Donald-Duckish voice a short number series it had heard spoken by one of the laboratory investigators.

The import of these discoveries is tremendous and may not be adequately known for a long time. An animal from a little explored medium, which places great barriers in the way of the psychologist, has been found to have not only a strong social organization, but to show a degree of initiative in experimental communicative activity unmatched by man's closest relatives, the great apes. The porpoises reveal, moreover, a touching altruism and friendliness in their attempts to aid injured companions. Can it be, one inevitably wonders, that man is so locked in his own type of intelligence—an intelligence that is linked to a prehensile, grasping hand giving him power over his environment—that he is unable to comprehend the intellectual life of a highly endowed creature from another domain such as the sea?

Perhaps the water barrier has shut us away from a potentially communicative and jolly companion. Perhaps we have some things still to learn from the natural world around us before we turn to the far shores of space and whatever creatures may await us there. After all, the porpoise is a mammal. He shares with us an ancient way of birth and affectionate motherhood. His blood is warm, he breathes air as we do. We both bear in our bodies the remnants of a common skeleton torn asunder for divergent purposes far back in the dim dawn of mammalian life. The porpoise has been superficially streamlined like a fish.

His are not, however, the cold-blooded ways of the true fishes. Far higher on the tree of life than fishes, the dolphin's paddles are made-over paws, rather than fins. He is an ever-constant reminder of the versatility of life and its willingness to pass through strange dimensions of experience. There are environmental worlds on earth every bit as weird as what we may imagine to revolve by far-off suns. It is our superficial familiarity with this planet that inhibits our appreciation of the unknown until a porpoise, rearing from a tank to say Three-Two-Three, re-creates for us the utter wonder of childhood.

Unless we are specialists in the study of communication and its relation to intelligence, however, we are apt to oversimplify or define poorly what intelligence is, what communication and language are, and thus confuse and mystify both ourselves and others. The mysteries surrounding the behavior of the bottlenosed porpoise, and even of man himself, are not things to be probed simply by the dissector's scalpel. They lie deeper. They involve the whole nature of the mind and its role in the universe.

We are forced to ask ourselves whether native intelligence in another form than man's might be as high, or even higher than his own, yet be marked by no such material monuments as man has placed upon the earth. At first glance we are alien to this idea, because man is particularly a creature who has turned the tables on his environment so that he is now engrossed in shaping it, rather than being shaped by it. Man expresses himself upon his environment through the use of tools. We therefore tend to equate the use of tools in a one-to-one relationship with intelligence.

The question we must now ask ourselves, however, is whether this involves an unconsciously man-centered way of looking at intelligence. Let us try for a moment to enter the dolphin's kingdom and the dolphin's body, retaining, at the same time, our human intelligence. In this imaginative act, it may be possible to divest ourselves of certain human preconceptions about our kind of intelligence and at the same time to see more clearly why mind, even advanced mind, may have manifestations other than the tools and railroad tracks and laboratories that we regard as evidence of intellect. If we are particularly adept in escaping from our own bodies, we may even learn to discount a little the kind of world of rockets and death that our type of busy human curiosity, linked to a hand noted for its ability to open assorted Pandora's boxes, has succeeded in foisting upon the world as a symbol of universal intelligence.

We have now sacrificed, in our imagination, our hands for flippers and our familiar land environment for the ocean. We will go down into the deep waters as naked of possessions as when we entered life itself. We will take with us one thing alone that exists among porpoises as among men: an ingrained biological gregariousness—a sociality that in our new world will permit us to run in schools, just as early man ran in the packs that were his ancient anthropoid heritage. We will assume in the light of Dr. Lilly's researches that our native intelligence, as distinguished from our culturally transmitted habits, is very high. The waters have closed finally over us, our paws have been sacrificed for the necessary flippers with which to navigate.

The result is immediately evident and quite clear: No matter how well we communicate with our fellows through the water medium we will never build drowned empires in the coral; we will never inscribe on palace walls the victorious boasts of porpoise kings. We will know only water and the wastes of water beyond the power of man to describe. We will be secret visitors in hidden canyons beneath the mouths of torrential rivers. We will survey in innocent astonishment the flotsam that pours from the veins of continents—dead men, great serpents, giant trees—or perhaps the little toy boat of a child loosed far upstream will come floating past.

Bottles with winking green lights will plunge by us into the all-embracing ooze. Meaningless appearances and disappearances will comprise our philosophies. We will hear the earth's heart ticking in its thin granitic shell. Volcanic fires will growl ominously in steam-filled crevices. Vapor, bird cries and sea wrack will compose our memories. We will see death in many forms and, on occasion, the slow majestic fall of battleships through the green light that comes from beyond our domain.

Over all that region of wondrous beauty we will exercise no more control than the simplest mollusc. Even the octopus with flexible arms will build little shelters that we cannot imitate. Without hands we will have only the freedom to follow the untrammeled sea winds across the planet.

Perhaps if those whistling sounds that porpoises make are truly symbolic and capable of manipulation in our brains, we will wonder about the world in which we find ourselves—but it will be a world not susceptible to experiment. At best we may nuzzle in curiosity a passing shipbottom and be harpooned for our pains. Our thoughts, in other words, will be as limited as those of the first men who roved in little bands in the times before fire and the writing that was to open to man the great doorway of his past.

Man without writing cannot long retain his history in his head. His intelligence permits him to grasp some kind of succession of generations; but without writing, the tale of the past rapidly degenerates into fumbling myth and fable. Man's greatest epic, his four long battles with the advancing ice of the great continental glaciers, has vanished from human memory without a trace. Our illiterate fathers disappeared and with them, in a few scant generations, died one of the great stories of all time. This episode has nothing to do with the biological quality of a brain as between then and now. It has to do instead with a device, an invention made possible by the hand. That invention came too late in time to record eyewitness accounts of the years of the Giant Frost.

Primitives of our own species, even today, are historically shallow in their knowledge of the past. Only the poet who writes speaks his message across the millennia to other hearts. Only in writing

can the cry from the great cross on Golgotha still be heard in the minds of men. The thinker of perceptive insight, even if we allow him for the moment to be a porpoise rather than a man, has only his individual glimpse of the universe until such time as he can impose that insight upon unnumbered generations. In centuries of pondering, man has come upon but one answer to this problem: speech translated into writing that passes beyond human mortality.

Writing, and later printing, is the product of our adaptable many-purposed hands. It is thus, through writing, with no increase in genetic, inborn capacity since the last ice advance, that modern man carries in his mind the intellectual triumphs of all his predecessors who were able to inscribe their thoughts for posterity.

All animals which man has reason to believe are more than usually intelligent—our relatives the great apes, the elephant, the raccoon, the wolverine, among others—are problem solvers, and in at least a small way manipulators of their environment. Save for the instinctive calls of their species, however, they cannot communicate except by direct imitation. They cannot invent words for new situations nor get their fellows to use such words. No matter how high the individual intelligence, its private world remains a private possession locked forever within a single, perishable brain. It is this fact that finally balks our hunger to communicate even with the sensitive dog who shares our fireside.

Dr. Lilly insists, however, that the porpoises communicate in high-pitched, underwater whistles that seem to transmit their wishes and problems. The question then becomes one of ascertaining whether these sounds represent true language—in the sense of symbolic meanings, additive, learned elements—or whether they are simply the instinctive signals of a pack animal. To this there is as yet no clear answer, but the eagerness with which laboratory sounds and voices were copied by captive porpoises suggests a vocalizing ability extending perhaps to or beyond the threshold of speech.

Most of the intelligent land animals have prehensile, grasping organs for exploring their environment—hands in man and his anthropoid relatives, the sensitive inquiring trunk in the elephant.

One of the surprising things about the porpoise is that his superior brain is unaccompanied by any type of manipulative organ. He has, however, a remarkable range-finding ability involving some sort of echo-sounding. Perhaps this acute sense—far more accurate than any man has been able to devise artificially—brings him greater knowledge of his watery surroundings than might at first seem possible. Human beings think of intelligence as geared to things. The hand and the tool are to us the unconscious symbols of our intellectual achievement. It is difficult for us to visualize another kind of lonely, almost disembodied intelligence floating in the wavering green fairyland of the sea—an intelligence possibly near or comparable to our own but without hands to build, to transmit knowledge by writing, or to alter by one hairsbreadth the planet's surface. Yet at the same time there are indications that this is a warm, friendly and eager intelligence quite capable of coming to the assistance of injured companions and striving to rescue them from drowning. Porpoises left the land when mammalian brains were still small and primitive. Without the stimulus provided by agile exploring fingers, these great sea mammals have yet taken a divergent road toward intelligence of a high order. Hidden in their sleek bodies is an impressively elaborated instrument, the reason for whose appearance is a complete enigma. It is as though both man and porpoise were each part of some great eye which yearned to look both outward on eternity and inward to the sea's heart—that fertile entity so like the mind in its swarming and grotesque life.

Perhaps man has something to learn after all from fellow creatures without the ability to drive harpoons through living flesh, or poison with strontium the planetary winds. One is reminded of those watery blue vaults in which, as in some idyllic eternity, Herman Melville once saw the sperm whales nurse their young. And as Melville wrote of the sperm whale, so we might now paraphrase his words in speaking of the porpoise. "Genius in the porpoise? Has the porpoise ever written a book, spoken a speech? No, his great genius is declared in his doing nothing particular to prove it. It is declared in his pyramidical silence." If man had sacrificed his hands for flukes, the moral might run, he would still be a philoso-

pher, but there would have been taken from him the devastating power to wreak his thought upon the body of the world. Instead he would have lived and wandered like the porpoise, homeless across currents and winds and oceans, intelligent, but forever the lonely and curious observer of unknown wreckage falling through the blue light of eternity. This role would now be a deserved penitence for man. Perhaps such a transformation would bring him once more into that mood of childhood innocence in which he talked successfully to all things living but had no power and no urge to harm. It is worth at least a wistful thought that someday the porpoise may talk to us and we to him. It would break, perhaps, the long loneliness that has made man a frequent terror and abomination even to himself.