



A Knowledge of Nature

People today are flocking to the outdoors in greater numbers than ever. Yet many come unprepared to find the adventure which nature holds. An appreciation of natural life is a continuing source of interest and enjoyment. It may also provide a bulwark against the threatened destruction of mankind...

□ In *The Mammals of Canada*, the Canadian government's compendious official publication on that subject, there is an entry under the heading of "Primates". Apes in Canada? No, but one family of the primate order does inhabit this country: *Hominidae*, or men. The author, A. W. F. Banfield, tells us that all primates require long maternal care and are gregarious, highly vocal, and omnivorous. Man is set apart from others of this general type by his "great manual dexterity, a sophisticated degree of intercommunication by means of speech, and the power of reason", Dr. Banfield adds.

This affords a refreshing, although incomplete, perspective on the status of the human race in the world — as just one kind of creature living among countless others. It also points to a philosophical approach for individual human beings concerned about the survival of a life support system which does not belong to us alone. Obviously the scope of the work did not permit Dr. Banfield to go into the details of the characteristics which give humans their unique place in the global scheme of things. These include man's use of mechanics and chemistry, which accounts for his astonishing mobility. Humans may carry their own environment with them wherever they go.

This portable environment permits man to invade the habitats of the rest of the earth's creatures. So far in history such invasions have

been destructive to other living things; a century ago, for example, huge herds of buffalo still roved the Canadian plains. Short of the outright extermination of other species, man has ravaged their environment. Salmon once swam in the Seine, the Rhine, the Thames and the Hudson. Wild turkeys and puma once lived in southern Ontario. That mighty warrior of the wilds, the wolverine, once ranged throughout Canada, with the exception of part of the Maritime provinces and Newfoundland.

In his incessant thrusting for more living space and his obsession with his own perceived welfare, man ousted these and all sorts of other wildlife from the homes nature had provided for them. People gave little thought to the possibility of sharing the land. They wanted it all and they got it; and in the process they created their own wastelands. Amid the confines of the cities there arose concrete jungles more dangerous to life and limb than the natural kind.

Lately, however, the human invasion of the natural world has grown more peaceful. In an increasing number of national parks and other such preserves, the rest of creation is offered at least a share of nature's wealth. The interrelationships between human and other life forms have at last become widely recognised. We no longer labour under what Oliver Wendell Holmes called "the delusion that human life is under all circumstances to be preferred to vegetable existence."

It has finally dawned on us that we cannot persist in devastating the conditions of life for wild things without to some extent devastating the conditions of life for ourselves.

Most educated people now know that man must cease behaving like a bull in a china shop. As a result, greater public consideration is being given to the environmental consequences of human acts. But apart from that, there is a growing recognition of man's deep-seated *need* for nature. In the long run, this may be the salvation of us all.

Among the faculties which the human species possesses and others do not is something called the spirit. The Oxford Dictionary defines it as the "animating or vital principle of man; intelligent or immaterial part of man; soul". Call it what you will, it is there; and the human spirit needs beauty and tranquillity as the human body needs food and water. People deprived of spiritual sustenance are subject to emotional distress, and are prone to harm themselves by attempting to satisfy the emptiness they feel by reaching for placebos such as drugs.

The spiritually undernourished are usually found in cities. In North America today, most of us are obliged for economic reasons to live in large concentrations of population whether we like it or not. The more we cram ourselves into urban surroundings, the more we need a lifeline to the outdoors to find the satisfaction that comes of being rounded human beings. We need fresh air — not so much for our bodies as for our minds.

It is heartening to observe that — in North America, at least — more and more urban dwellers are now responding to this spiritual requirement. Every summer the roads fill up with cars carrying tents and canoes on their roof racks and hauling house or boat trailers, self-propelled "campers" and the like. Young people tramping the land with packs on their backs are to be found in the most out-of-the-way places. Add to these the great numbers of urban dwellers who go to summer cottages and other country retreats, and it all amounts to a mass movement back to nature. It is perhaps the healthiest social development, both physically and psychologically, in many years.

Yet, having sought out nature, many people seem to be somewhat at a loss when they find it. Their education has not equipped them to appreciate the world of interest that is all around them outdoors. Severed from their television and stereo sets (although some, indeed, carry these implements with them) they tend to find life in the lap of nature rather boring. It is anything but — as they would find out if they brought along a few readily-available and inexpensive nature guide books to consult.

*A boy can identify every car,
but not the trees and flowers*

It reflects badly on the order of priorities in our society that a schoolboy can tell you the brand names of all the cars on the road but cannot identify any but the most familiar trees and wild-flowers. This is because, generally speaking, the educational system of North America is squeezed indoors to a degree which stifles young minds. Few schools take advantage of the vast classroom of the outdoors to teach the things that really matter — the basics of life on a threatened planet. Children study insect larvae and tadpoles in paper cups inside a classroom instead of having their knowledge filled out by examining the complex environment in which these creatures actually live.

This is a pity, because a child is normally nature's most avid student. Every parent knows the propensity of small children to bring home caterpillars, grasshoppers, toads and other small living things. But parents rarely encourage this instinctive attraction by imparting a knowledge of nature to their children. Too often, the interest of children in the natural world is diverted by the example of their elders into a concentration on the inanimate objects that money will buy.

"To speak truly, few adult persons can see nature," wrote Ralph Waldo Emerson. "The sun illuminates only the eye of the man, but shines into the eye and the heart of the child." Children should be led to explore the manifold mysteries of natural life while their curiosity is still blooming. A child thus prepared may grow into Emerson's ideal nature lover: "He whose inward and outward senses are truly adjusted to each other, who has retained the spirit of infancy even into the era of adulthood."

This surely is the fundamental reason for people of all ages to learn something of nature: to keep their minds fresh by feeding their sense of wonder. There are wonderful things all around us, if only we could see. What may be commonplace to one man may be a living miracle to another. In his 1939 book *Wind, Sand and Stars*, Antoine de Saint-Exupéry told of how he had talked to some Bedouin chieftains on their return to the North African desert from a tour of France. Saint-Exupéry expected them to be full of admiration for the achievements of civilization they had witnessed. But, he said, they evinced a "freezing indifference" to the Eiffel Tower, the steamships, the locomotives. "What they thought admirable was not a locomotive, but a tree. When you think of it, a tree does possess a perfection that a locomotive does not know."

Nature's mysteries are part of its endless fascination

Coming from a land which offers easy access to a rich variety of natural settings, Canadians in particular tend to take the wonders of nature for granted. For example, the most common tree of the Canadian Shield, the black spruce, is a marvel of endurance in the struggle for survival in the wilds. Everything around this unimposing tree seems to conspire towards its extinction. Squirrels clip off its cones; spruce grouse eat the seeds it scatters; matted caribou moss prevents the seeds it does manage to spread from penetrating the soil. High winds often blow it up from its shallow roots; yet it will grow on practically bare rock and on the fringes of the tundra. If a black spruce can propagate itself no other way, its life force is transmitted through its lower branches. When an old tree falls over, the branches send roots into the soil to become new trees in their own right.

As familiar an animal as a porcupine is a truly intriguing phenomenon. The porcupine is a typically tropical rodent from South America which has somehow managed to adapt itself to conditions as far north as the Arctic tree line. Perhaps its foreign origin is what makes it so formidable. A grown porcupine carries up to 30,000 quills with which to repel its predators. The painful shock of receiving a dose of these quills causes an animal that touches it to recoil, allowing the porcupine time to waddle safely away.

Unlikely as it seems, the porcupine is a killer. The quills can spell slow death to the most powerful timber wolf or the cleverest fox by dooming it to die of starvation because it is unable to eat, or by working their way into its brain. It is said that only one Canadian animal can kill a porcupine with impunity. This is the big member of the weasel family called the fisher, which has developed the knack of flipping porcupines over on their backs and attacking the unprotected underside.

Why one creature alone should be able to do this, no one knows — but such mysteries are part of the endless fascination of nature. It is impossible for an intelligent person not to stand in awe of its mysterious logic, which goes far beyond human ken. A flight of wild geese is a study in aerodynamics. The leader of the "V" formation breaks trail through the air, and each bird thereafter gains "lift" from the updraft created by the wing action of the one in front of it. Being the leader is not easy, and that is why you will see the birds change the lead position periodically, as if by pre-arrangement. It all works so smoothly that spectators rarely stop to ponder what a remarkable system it is.

Nature is full of secrets to tantalize the inquiring mind. Many creatures specialize in deception. That beautiful copper-coloured butterfly may be what is known as a monarch — but then again it may not. The caterpillars of the monarch feed on milkweed plants. As adults they contain a poison from the milkweed which kills predators such as birds, frogs and bats. Most predators have learned not to touch a monarch. So non-poisonous butterflies like the viceroy "mimic" its appearance to frighten their own predators away.

The little things of life are as interesting as the big ones

In the natural world, things are often not as they appear. If one sees a couple of squirrels scurrying about, it looks as if they are merely frolicking. But there could be a story behind it. Squirrels have a streak of larceny and steal from one another's food stores. When one squirrel chases

another up and down a tree, there is a good chance that the pursuer has caught the pursued burglarizing his stock of groceries, and is going after him with blood in his eye. It is usually as harmless as an animated cartoon, however. The burglar is seldom caught.

The little things in nature are every bit as interesting as the bigger ones. A tiny dragonfly nymph in a puddle will gorge itself at a rate of a thousand insect eggs an hour. It is a model of speed and efficiency, employing jet propulsion to dart about after its quarry. The nymph draws water through a vent in its tail, then expels it to shoot forward. At the same time it unlimbers a sinister-looking hinged device with pinchers at the end to grasp its prey and stuff it into its mouth.

Man may only expand his place in creation at his own risk

Assuming that it survives the attentions of its many predators, the nymph will grow up to become the scourge of flies and mosquitos. A dragonfly is a superbly-equipped hunter, hovering like a helicopter on its double wings and gobbling up all the smaller flying insects that come within reach of its long grasping "arms". It has a straightforward digestive tract which enables it to eat fantastic numbers of other insects. One is reported to have been found with more than a hundred mosquitos in its mouth.

Nature, then, holds few dull moments for those who get to know it. For 26 months in the mid-1840s a man named Henry David Thoreau lived on the edge of a New England pond. He was an educated man in conventional terms, but he remarked of Harvard University, where he had studied, that it "taught all the branches but none of the roots". His real education, he felt, came from the time he spent at the pond studying nature.

"I went to the woods," he explained, "because I wished to live deliberately, to front only the essential facts of life, and to see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived."

He learned a great deal, which he passed on to posterity in his masterpiece, *Walden: or, Life in the Woods*. The surprising thing about Walden Pond was that it was only two miles from the centre of the town of Concord, Massachusetts. Thoreau felt no need to go to the unexplored wilderness to find the lessons in life which nature has to teach. Within earshot of the church bells of Concord, there was nothing very exotic. His food for thought came from considering the ways of worms and water bugs, of squirrels and chickadees. He filled several pages of his book with his observations of a battle between two types of ants.

Walden was Thoreau's theatre, his art gallery, his classroom. It held his interest constantly; yet, if he had not worked at gaining a knowledge of his natural neighbours, he might have hated the place. If he had not turned over the occasional log to see what was underneath, or not known one bird from another, he would never have furthered his understanding of the human condition. As it was, he came away knowing the great secret of life on earth, that it is one and indivisible. In the "restless, nervous, bustling, trivial Nineteenth Century" in which he lived, he showed a rare awareness of the fact that man could only expand his place in creation at his own risk.

That century has now been succeeded by another in which human transgressions against the natural order have been pushed close to the point of self-destruction. It has become a plain matter of survival for man to learn the limitations of his role in the world. We cannot all be Thoreaus; but there should be a little of the Thoreau in all of us if we are to make the earth safe for coming generations. People who know about nature know about the thread that connects all living matter. And they know, too, just how delicate and irreplaceable that thread can be.