

FLOYD SCHMOE **Why Is Man?**



Why Is Man?

Floyd Schmoe



THE QUAKER UNIVERSALIST FELLOWSHIP

...is composed of seekers, mainly, but not exclusively members of the Religious Society of Friends. QUF seeks to promote open dialogue on its issues of interest. It writes in its statement of purpose:

While being convinced of the validity of our own religious paths, we not only accept but rejoice that others find validity in their spiritual traditions, whatever they may be. Each of us must find his or her own path, and each of us can benefit for the search of others.

In the selection of both its speakers and manuscripts, QUF tries to implement those ideas.

EDITOR'S INTRODUCTION

In April, 2001, death came to Floyd Schmoe at the age of 105 years. His life had touched three centuries, but most of it was spent in the wonderful and terrible 20th century. I will always think of him as the quintessential Quaker of our times.

Floyd was born on a Kansas farm in 1895. He studied forestry, attracted like earlier generations of Friends, to the practical and immediate aspects of science. When World War I arrived, he was finishing a degree at the University of Washington in Seattle. True to his upbringing, he refused combat service and drove a Red Cross ambulance on the front lines in France. Back in Seattle, he married and took up a long career as a teacher and naturalist. He also wrote books. I first encountered his name in my high school library as the author of a work on the plants and animals of Mount Rainier National Park, where he had served in the 1920s as a naturalist and guide.

When I was a student at the University in the 1940s, I met Floyd in person. He was then deeply involved, as a Friend and as an AFSC staff member, in helping Japanese-Americans during their wartime internment and relocation. My most vivid memory from those years is of going with him on his weekly visits to the King County tuberculosis sanitarium to see Nisei patients – many of them my own age – who were left there when friends and families had been taken to camps hundreds of miles away. I also remember student retreats at Quaker Cove on Puget Sound north of Seattle, where Floyd's knowledge and almost mystical regard for the living systems of forest and seashore were a part of the experience. He had never received his doctorate in biology.

He told me once that the dissertation topic he proposed human ecology was rejected as unsuitable.

After the war Floyd became internationally known for his work on “Houses for Hiroshima” and, later, “Houses for Korea.” He also worked on projects in Africa and the Middle East. Three times he was nominated for the Nobel Peace Prize, and Japan, in particular, showered him with honors, including the Order of the Sacred Treasure and honorary citizenship. He also wrote more books, some on his travels, and some on his observations of nature.

One of his last books was a small collection of meditations on science, nature, humankind, and God. He called it *Why Is Man?* and had it privately printed in 1983, when he was 88 years old. He sent me a copy after I wrote to him following publication of his article “On Being 90” in *Friends Journal*. Today, although some of its scientific facts have become outdated, the book seems as pertinent as it did eighteen years ago. Now, more than ever, Friends are contemplating the place and role of human beings in the evolution of planetary life and in the “New Story” of the larger cosmos. Whatever the spiritual meaning we take from this narrative, it draws all humans and all religious traditions into a universal web of interdependence and wonder.

In editing selections from the book for this pamphlet I have changed wording only for clarity or where there was clearly an editing or typographical error. I have, however, abridged large sections, and I have altered paragraphing and punctuation to make the text more readable and consistent.

Rhoda R. Gilman

NOTES

1. Throughout this work I will use the word “man” in its generic sense – man, the human animal – both male and female, a primate of the family *Hominidae*; genus *Homo*, species *Sapiens*. The Greek word *homo* means “same,” but the Latin word *homo* means “man,” a human being. The English word “man” is a modernization of the Old English *monn*, likely from the Latin *mens*, meaning “mind.”
2. In 2001 the world’s population exceeds six billion.

Earth can survive. The Kingdom of God is possible. Man, with Divine help, can make it so. It is his destiny, his reason for being a man.

The September moon has not yet risen, but planet Venus stands bright twenty degrees above the southern horizon. I saw it there last week from my hotel window in Moscow. It is a small world but the universe is vast. Man's grasp is small but his potential is enormous.

It is 3:00 a.m.

WHY IS MAN?

The following dissertation has to do with man, the human being; how he came to be; his purpose (if any) on earth; his duty to his God, his creator; to others, his fellow men; and to earth, the soil which bore and which nurtures him.¹

Many questions will arise and few answers will be found. As source material we have many books by many authors, all humans themselves and, therefore, biased. Our most authentic source is, of course, the creature himself, and of him there is abundant supply. In addition there is the physical universe, the cosmos, and especially this small fragment of the cosmos, the planet earth.

There is but one earth. On it there are many peoples and most of the people believe in some form of god, or gods, some supreme being who caused man to be created and who still exerts some controlling influence over him. There was a man called Abram, progenitor of the Hebrew race, who was, so far as we know, the first to proclaim "*the Almighty God.*" Some thousands of years later, another prophet of the same Mideast area, Mohammed, confirmed Allah to be the "one God," and through his teaching and his writing established Islam as the second largest religious sect of the modern world.

Saint John says: *In the beginning was the Word, and the Word was with God, and the "Word" was God.* (Jn. 1:1) John, son of Zebedee and Salome, like his father, a Galilean fisherman, had become a skillful user of words and knew the value of metaphor, for in the same breath he adds: *In Him was life and the "life" was the light of men.* (Jn. 1:2) To me "word" and "light" suggest thought, ideas, plans,

blueprints. Before there is action, before “creation,” there must be ideas – a design.

So God, the “creator” becomes the architect and the builder. John goes on to say that *All things were made by him, and without him was not anything made that was made.* (Jn. 1:3) Whether the making actually took off as a big bang or as a quiet whisper of evolutionary growth does not really matter. John had never heard of cosmology or evolution, but he knew the mystery and the wonder of creation.

On a scale of a 24-hour day, living creatures appeared on earth only late in the evening, and man just before dawn. In man’s 24-hour day of life, modern man, “civilized” man, also has appeared only just before dawn. On this scale Moses and Abraham were moderns, and Jesus of Nazareth all but contemporary. It was this Jesus who admonished us to *Seek ye first the Kingdom of God*, and promised that if we do, *all these things shall be added unto you.* (Matt. 6:33)

Some twelve hundred years later Thomas Aquinas (1225-1274) added: “Three things are necessary for the salvation of man: to know what he ought to believe; to know what he ought to desire; and to know what he ought to do.” The Greek philosopher Plato (427-347 B.C.) had stated: “Each man shall engage in the proper tendance of his soul and seek the supreme good which the high god has set before him.” A century earlier still, the great Buddha (563?-483? B.C.) had taught that man should seek *nirvana* – a state of absolute felicity by right living, and peace of mind through meditation.

Such a belief in the ability of man to gain reward through right living on earth marks a high in the history of religions which earlier, with the ancient Egyptians, and much later with many Western religions, condemn man to unending struggle during his earthly life, holding out the hope of a reward only after death and in some nebulous

allotted time a creature of earth, subject to all the joys and comforts, the hazards and uncertainties of earthlings.

Yet, so long as the divine spark of life still burns it is more than an earthling. Though its mother is earth, its sire is God; and in this aspect of life men differ only in degree from the most lowly of God’s creatures, for all living things share this divine fire.

On the 29th day of September, 1983, in the eighty-eighth year of my life, I arose from a night of rest to write these words:

Man, the climax animal, the dominant creature of earth, is, by his own hand and volition, an endangered species. Having by the Grace of God, his inherent skill and cunning, and the marvelous processes of creation and evolution attained a stellar role in earth’s drama of life and death, he is now at a point of crisis. From this point he goes on to unknown heights, even to a oneness with God – *Homo Divinus*, a co-creator with the Almighty; or he goes out like a light, taking all living creatures with him, never to shine again in the universe of nature.

By his own will and ambition he has assumed this role. By his own volition he must now choose his fate. Standing tall, front center on the stage of life, he is free to choose his part – to bow out or to go on with the show. To my mind there is but one choice: THE SHOW MUST GO ON.

Having been given this right of choice, it is man’s responsibility and his duty to carry on. To God his maker and his guide, to his brother man and his neighbors of lesser stature, he bears this responsibility. To his own self as a dominant species, and to this earth which bore and sustains him, he bears this obligation.

a spiritual kingdom, a world unbounded by earthy planets or suns or galaxies of stars – a world beyond time and space. It is the substance of old men’s dreams, and being an old man, I think on it. But there is scant substance to my dreams. The faith of the religious, the longings of dreamers, the assurances of the prophets – these give strength to hope, but they have not the evidence of reality. With all who seek assurance, I share the hope of finding. However, it is in the nature of life itself that I find substantial evidence of immortality.

Since the birth of the first living cell, life has enlarged and perpetuated itself. Growth is of the very essence of existence. Living organisms are the embodiment of life forces. They live and grow, wither and die, but life goes on. The organism is mortal. Life which animates it is immortal. But what actually happens to life when the creature which enfolded it ceases to be? It is no longer there, but where has it gone? Is it like water vapor which is lifted by the sun from the surface of the sea, carried by currents of air to be dropped as rain upon the land, there to revive the earth, sustain growth, turn wheels and carry commerce, until it returns again to join the ocean of its source? Or is it like the electricity of earth’s magnetic field, which is captured briefly by the spinning wheel, does its work, lights its lamps, and passes again into the vast energy pool of its origins?

It seems to me that the real stuff of life, the living substance, must be like that – a vital, God-given dynamic whose tool is the living cell. Quickened by this fire, invigorated by this spirit, organic cells swell, multiply, form tissue, create their foreordained being and attain their appointed destiny. In the process of living, each creature, according to its purpose, employs the mechanisms of chemistry and physics, the light and energy of the sun, and the elements and nutrients of the soil to become for its

other world. George Fox (1624-1691), founder of Quakerism, discovered for himself after much painful seeking: “There is one, even Jesus Christ, that can speak to thy condition,” then added, “and when I heard it my heart did leap with joy.” The Jesuit monk, Pierre Teilhard de Chardin (1881-1955) likewise believed in the ability of human beings to seek and find perfection and to attain a spirit of wholeness whereby their spirit, in effect, “converges” with that of God.

Man’s final end and the purpose of his existence, according to Meister Eckhart, the German theologian (1260?-1327?), “is to love, know and be united with the immanent and transcendent Godhead,” adding: “The seed of God is within us. It will grow and thrive up to God, whose seed it is.” These all speak of God’s purpose for man and suggest his destiny.

It is impossible to ask “Why is Man” without first asking “Why is Life” for the animal *man* has his seeds and his roots deep in the mystery of life; yet the source of life itself remains an unfathomed secret. Life appeared on this earth some billions of years ago, and then only after other billions of years of labored preparation on the part of earth to receive and sustain it.

First, there must of necessity have been formed the stuff from which living organisms could be created, and the elements necessary for survival. These we know in combinations as air, water, soil and foodstuffs – basically all the material elements of earth, plus the energy (as light and warmth) of the sun. As Loren Eiseley so beautifully phrased it, we are formed “from dust and the light of a distant star.” And there was yet another element less earthly than these – that of *time*. Time was, and still is, an essential ingredient in the creative process.

In the beginning, and yet today (for creation is an ongoing process), plant life played the leading role in the formation of the earth's biosphere – those few inches of topsoil and few feet of oxygen-laden air which sustain and support all living things. What sparked the first viable cell into life, and from whence that life force came, no man knows, though from the ultimate beginning it must have existed so that when its time came, it blossomed, and life as we know it surged into being.

This much we do know: life first appeared in the form of simple cells (though no living cell is really “simple”), most likely as bacteria, similar if not identical to species of bacteria which are living still today. In the warm primordial seas (and seas covered all or most of the earth in its earliest days), a primitive one-celled plant, a *diatom*, prospered. These ancestral plants, the real Adams and Eves of the Garden of Earth, produced – as their descendants still do today – free oxygen (in gaseous form) to become the very breath of life for all animal forms yet to be. They also, by their death as much as by their life, enriched the waters of the oceans, and contributed to the building of the land masses upon which more complex forms of plant and animal life could prosper.

Various algae followed the diatoms; and mosses, lichen, ferns, cycads, and flowering plants came in turn. Earth became green, a fit place for all manner of creeping, swimming, flying, walking creatures, such as we. And still today all of us animals are completely and totally dependent upon green growing plants, both for the air we breathe and the food we eat.

Whether animal life developed directly from plant ancestors, – or as is more likely – had a parallel genesis, is not known. However, with all the knowledge of modern biology, it is still very difficult to find a sharp line dividing

appears to be hospitable to man. Some, such as our moon, will no doubt be found useful as a staging ground for deeper probes into the heavens, and for the mineral resources to be found there, but not as a promising new frontier to be occupied and subdued as our forefathers occupied America. So, for the time being at least, we can assume that it may be possible that we are unique, that the miracle of life came to earth alone, and that we should continue to live as though this earth is our now and future homeland. Too long already have we treated it as expendable – a mine to be plundered rather than a garden to be cultivated, conserved, and cherished.

Man's problems are largely of his own making. Earth offers limited space and sustenance for the maintenance and expansion of life, and man, walking roughshod over all other creatures, usurps more than his share. Rapidly we approach the limits of earth's ability to sustain us all. Only forty or fifty thousand years ago, when early man must have begun to be aware of his dependence upon nature, he was still few in numbers and much of earth yet lay beyond his limited horizons. Neanderthal man spread a population thinly over northern Africa, southern Asia and western Europe. Only an estimated million human beings existed on earth. Today demographers postulate a world population of more than four billion – 4,000 millions – and predict another billion within the coming generation.² And on this earth there are now no lands beyond the horizon.

Granted there are other worlds, millions of them no doubt, and given time earth men may find ways of migrating to one of them, but time for that seems also to be in short supply. There remains the ancient hope of a heavenly world,

of every four years. In addition, by misuse, overuse, and waste, he depletes his limited stores of unrenewable resources (such as metals, coal, oil, gas, and mineral fertilizers) at an alarming rate.

True, our biosphere, more like a living organism than a mechanism, is a wonderfully resilient thing, able to suffer hurt but able also to heal its wounds – when given a chance – and survive. Therefore to save earth and our very lives – for man himself has become an “endangered species” – we need only, in most cases, to leave it alone and cease to starve, poison, abrade, and pave over its surface, both land and sea. For man’s past mistakes we may plead ignorance, but no more. Today we are well aware of our duty to earth and our dependence upon its bounty. We have the tools and the techniques to conserve soil, limit pollution of air and water, and to correct past mistakes.

We are also rapidly becoming aware of the value, in fact the necessity, of other forms of life, and we are beginning to accept the fact that so-called “wild” creatures have a right to their place on earth equal to our own. And most men now know that beauty is to be cherished over ugliness, learning over ignorance, concern for others over neglect and abuse, welfare over disease and decay, generosity over greed and avarice, love over hate, and peace over war. – Adam should have known as much.

Assuming that there are uncounted numbers of planets similar to earth which orbit millions of stars similar to our sun, we feel that surely among so many there must be some such as ours, which are so located in relation to their “sun” that living organisms, perhaps similar to those found on this earth, find it possible to live. But what is possible, may or may not be probable.

We have explored all our sister planets, those of our solar system, including several of their satellites, and none

plant from animal. Both came out of the same primordial slime and both are products of the same stuff – the stuff from which the entire universe is formed. As we have just said, what actually sparked life into existence and from whence that life force came, remains one of earth’s best kept secrets, though at some point in time exactly the essential combinations of elements “happened” to come together to form a brew of proteins (in the form of amino acids), which, when quickened by sunlight, or possibly some electric impulse, sprang into life as a vibrant, pulsing, globule of *protoplasm*. In time, this protoplasm – “mother of life” – responding to the “plan of nature” – created a *nucleus*, grew a protective wall about itself, and became the world’s first living cell.

Solar energy, and some “guiding light,” soon led this parent cell to absorb foodstuffs, swell and expand, and to divide and multiply – thus to form tissues and systems and become a living *organism* – a plant whose innumerable descendants were destined to clothe all earth in living things. Fortunately, the plants were able to “invent” a magic green substance called *chlorophyll* (leaf color), through the good offices of which they are able to combine the raw elements of earth (again using the sun’s energy) into digestible starches and sugars – a vital process called *photosynthesis* (making by means of light.)

It is this chlorophyll, present in the cells of every blade of grass and green leaf, which makes of plants amazing “factories,” tirelessly producing sustenance for all earth’s creatures. While each plant, with its complex of root, stem, leaf, flower and fruit is an entity unto itself, so is every cell within that plant. Working together in silent harmony for the good of the whole, all still remain their own “persons” and have a life apart. And each living cell, by virtue of the DNA within it, has an intelligence sufficient to its purpose.

Lewis Thomas says: “My cells are smarter than I am. I could not tell them how or when to perform their appointed tasks but they know ... and it’s fortunate for me that they do.”

Thus, whether of man or tree, these hordes of minute “factory workers” labor to sustain life, each with its own purpose and its own destiny. One thing they have in common: though each has its specialty, each must feed itself, grow, multiply, unite with others to form tissue, and cooperate for the good of the whole. Truly, (again in the words of Loren Eiseley), this amazing explosion of life on earth has been an “immense journey.”

For man, though his climax may have been foreshadowed in the diatom and the amoeba, the parade of his ghostly ancestors reaches dimly into obscurity. Along with many plants and animals whose fossil remains are known, man’s rise is also recorded in the rocks. However, since early man had a habit of hiding or burning his dead, and was skilled in avoiding natural pitfalls such as bogs, landslides, and ice which trapped and preserved the remains of many other animals, the remains of early man are so few and so widely scattered that in our prehistory there are many “missing links.”

As I read the history of creation, four words stand out. The first a *concept*, the idea. The second *light*, the energy to power it all. *And God said, let there be light.* (Gen. 1:3.) The third word is *organization*, for that is the process, the only known road from chaos to existence, from a void to an entity. And the fourth word has to be *faith*. – *Now faith is the substance of things hoped for, the evidence of things not seen.... Through faith we understand that the worlds were framed by the word of God, so that things which are seen*

living and pictures to give to his friends, the idea of people and their animal neighbors living together in harmony and love was an entirely rational concept. It would be a hundred years before ecologists would be able to convince men that such harmony is also essential to survival.

And the Lord God took the man and put him into the garden of Eden to dress it and to keep it. (Gen. 2:15)

And then what happened? – He made a mess of things, of course. And he has been messing things up ever since. First he ate the forbidden fruit and gained knowledge of good and evil. Don’t blame Eve – or even the serpent. Adam knew better.

Man still knows better and still he abuses earth. His sins against his environment are legion. He neglects the land – those few precious inches of soil which feed and nourish all living things. He contaminates with his waste the water and the air. Not even the seas escape his pollution. Millions of tons of topsoil are allowed to wash down the streams and rivers every year, silting up stream beds, causing disastrous floods, and hindering navigation. He drains wetlands and paves over farmlands, depriving himself, along with hosts of birds and animals, of essential habitat.

By such abuse, along with hunting, trapping, over-fishing, and the misuse of poisons and pesticides, man has not only reduced wildlife to a sad remnant of its one time abundance but actually caused the total extinction of hundreds of species of fishes, birds, and mammals, along with thousands of species of plant life, none of which can ever be recovered. This deplorable waste not only continues but increases year by year until now it is estimated that an entire species of wildlife disappears from earth on the average

the absence of hating. Loving compels a commitment to concern and service, creates an environment of helpfulness and community.

Now that the entire world is truly a neighborhood, thanks to the blessings of rapid transportation and instant communication, it is almost beyond imagination what a vastly different world we could have today if we were to follow the injunction of the prophet. Surely, by now the Peaceable Kingdom would be at hand – the Kingdom of God a reality.

The wolf also shall dwell with the lamb, and the leopard shall lie down with the kid; and the calf and the young lion and the fatling together; and a little child shall lead them. (Is. 11:6)

To Edward Hicks (1780-1849), Quaker painter, the vision of a “Peaceable Kingdom” was a literal one. In more than one hundred redundant paintings he pictured a lion “eating straw like an ox,” a wolf lying down with a lamb, and a little child leading them. In many of his versions of the Peaceable Kingdom, Hicks inserted, almost as a footnote, a distant scene of William Penn treating with the Indians; a hint no doubt that men should by rights be part of such a Utopian scene.

Unfortunately there is a perverse streak in mankind which often makes it easier to feel neighborly to a stranger than to the person next door, or even to a member of one’s own family. Americans especially are tenderhearted to the victims of disaster in far countries, or even the “enemy” at war – once they are defeated – and at the same time callous to evidences of inequality, bias, and abuse literally upon their own doorstep.

To most viewers, Friend Hicks’s quaint view of the scripture would seem to be purely symbolic, but to the modest, plain-spoken Hicks, who painted carriages for a

were not made of things which do appear. (Heb. 11:1 and 3)

For nothing really began until the spirit moved and light shone upon the world. Light, the energizing rays of the sun, sparked the chemical and physical elements of earth into living substance, which then, according to the plan, (and still powered by solar energy) developed earth’s biosphere and all the living things which move and have their being within it. And it did not, I think, “just happen” that one of those creatures, namely man, came to be endowed with a profound and compelling sense of curiosity and gradually developed a brain capable of thinking and of learning. In so doing he earned the name *sapient*, the thinker.

In addition, whether deserved or not, this man was endowed by his creator with an “inner light,” a divine compass, which, as loadstone seeks iron, eternally directs him toward God. That was *the true light which lighteth every man that cometh into the world. (John 1:9)*

It is my belief that since some guiding light seems to be inherent in every living creature, this “inner light,” to use the Quaker term, stems from the very beginning of life on earth and is, in varying degrees, operative throughout earth’s biosphere, though it may be that the human animal, man, is the only creature sufficiently aware of its presence to be concerned for its nurture and development. To such a man as George Fox, this “light within” was not synonymous with conscience, though it might, and should illuminate conscience. Conscience, the Quakers hold, can be and often is conditioned by circumstance; and modern behavioristic psychology teaches that instinct, intelligence level and culture, along with many other factors of time and place, will influence and often warp the conscience of an individual; while the “inner light” is a certain thing, a divine direction finder leading the person who is aware of it into right choices and actions.

It seems unlikely that our remote ancestors, those of the human dawning, paid much heed to this guiding light, having no knowledge of DNA or the teachings of such men as Moses, Jesus, St. Francis, and de Chardin. However, I am convinced that even many subhuman animals have some awareness of what is “right” and what is “wrong” behavior. Otherwise, there would never have been the moral evolution which has accompanied physical and intellectual evolution and elevated man as God’s highest expression of animate life to the position he has now attained.

The earliest visible evidence of which I am aware of man’s sense of mission or purpose is the manner in which the Neanderthal people of the Middle East and western Europe prepared their dead for the “long journey” which they apparently sensed lay ahead. Surely the grieving son who with tender hands laid his dead father in a shallow grave, placed a pouch of dried meat at his side, along with flints for striking a fire, and a spear for defense against possible enemies, held some hope and had some faith in a life to follow.

Man, with all his ability and eagerness to learn, still, after thousands of years of search, finds many secrets hidden from him. And the one which frustrates him the most perhaps is the answer to the question: What is to become of me? What is my future? We know that there are other worlds, but is there other life? And if so, does man have a part in it? There is no secret better kept.

From a rational, scientific point of view there is little evidence to give hope of human immortality. True, inspired men of all ages have assured us of some “heaven” or “hell” in store for us, but, so far as I know, none has produced physical evidence of such a place or state. With our amazing instruments we follow light and electric energy into infinity; we photograph distant stars; we transmit sounds and images

and in time rebuild a biotic community. And, just possibly, if life should survive, a manlike creature might again evolve. This process, as we already know, requires hundreds of millions of years of time and there may not be that much earth-time yet remaining, for even the sun is losing its warmth.

Personally, I do not believe that man will destroy his species. As in the recent past, he may still make tragic mistakes. Millions may still die needlessly, but some will survive and some will learn. As in the past, men will make more right choices than wrong ones. As knowledge increases and hindsight lengthens, the ratio of right to wrong choices should increase and man should accelerate his evolution.

All this is reason for being, though I do not believe it is the ultimate reason for man. Still, as with the mountain up which we struggle without ever being able to glimpse the summit peak, we feel there must be an ultimate goal. If we name this goal “human perfection,” it gives us reason to seek it – though we may still not know exactly what human perfection implies – or if it is indeed attainable.

Thou shalt not avenge, nor bear any grudge against the children of thy people, but thou shalt love thy neighbor as thyself: I am the Lord. (Lev. 19:18)

Thus spoke God to his people in Sinai through Moses his prophet – an admonition repeated several times by prophets and disciples during the next thousand years of Biblical history. Had men followed this advice, surely it would have relieved them of much pain and grief. A thousand wars, a hundred million lives saved, untold suffering prevented, for how could man love his neighbor and at the same time move against him in anger and violence? Loving is not simply

the climb will not be among those who reach the summit. As in the past, man will follow a devious route. There will be many detours, wrong turns, and dead ends. Canyons, rivers and glaciers will have to be crossed. Often he must go down in order to climb up again on the other side. More bridges must be built, equipment perfected, techniques developed, tested, and improved upon. Trial and error shape the way.

And as yet even the summit is unknown. No man can envision the ultimate heights – we climb because having climbed in the past and found the effort worthwhile, we continue to climb. We know that the penalty for standing still is stagnation and death. We are aware that many species of other animals have failed to survive the struggle. They have been unable to control their evolution, have ceased to climb, and eventually they have disappeared from the face of the earth, leaving little to mark their passing. Only man of all the creatures of earth has developed to a stage of mental and moral ability where he is now able to take a creative hand in his own evolution. This is his best hope of escaping the fate of those others.

With this gift, however, goes unusual hazard. With the right of choice there is always the opportunity of wrong choices; and there is always a penalty, often fatal, for faulty decisions. Modern man is also the only creature on earth who has the knowledge, the means, and (at times) the inclination to destroy himself totally. Already he has experimented with mass destruction and already he has created, and holds loosely, devices which, at his discretion (or lack of it) could quickly wipe out all higher forms of animal life on the planet. If he fails his trust, or if he should choose to loose the destructive power he holds within his hands, it would mean the end of mankind.

True, some low forms of life might survive a nuclear holocaust and, adjusting to a ravished earth, might in pain

over apparently unlimited distances; and we calculate with mathematical assurance that there are worlds beyond our ken. But we are yet to hear a voice, or see the image of any living creature outside this small sphere upon which we find ourselves.

If I had been deprived completely of any religious teaching and had no knowledge of the promises, prophecies, and comforts contained in the Bible; – if I had never heard of the Christ and his message of forgiveness and salvation, I would, I am sure, solely from the knowledge I have gained of the world and of nature, through experience, observation, and formal studies, have unbounded confidence in the essential immortality of life and the immortality of man as one of the highest expressions of life.

I remember Robert Millikan (1868-1955), winner of the 1923 Nobel Prize for Physics, saying: “We all came from someplace, and we are all going someplace; for the Supreme Architect of the Universe does not build stairways to noplacement.”

Long before there was so much being said about the recycling of our energy and our material resources, I was aware that a fundamental principle of nature in its functioning on this small, self-contained bit of matter we call earth, is that everything is recycled continuously. Everything changes, usually for the better (which is called growth), often for what seems at the moment to be worse (which we call decay or death), though that is often a prerequisite to greater or more abundant life; for nothing is ever really lost.

The most basic of all elements, hydrogen, in the nuclear power plant of the sun, breaks down into helium or, in the

cooler atmosphere of the earth, combines with oxygen to form water and with a hundred other elements to form a thousand composites such as starches, sugars, proteins and fats – the very stuff of life itself. Water, air, basic minerals, and mineral salts energized by the light and warmth of the sun, combine under the alchemy of nature to produce plant tissues: roots, stems, leaves, flowers, and seeds, some of which in turn are recycled into animal tissue – you and me. When life removes its divine force from these bodies of ours, nature, ever on the job, through fire or decay, returns the elements to the storehouse of earth again from whence they are available for recreation into living organisms.

Early in life it came to me, not from learning, I think, but from something like intuition, that if this is true of material things, it must also be true of spiritual things, and if it is true on this small unit of the universe it must be universally true.

There is no good definition of life, and no good explanation of death. But certainly life is dependent upon some form of energy – is essentially an expression of energy. In a material sense it is an extension of that same divine solar energy which caused the green plant to become alive and to abound. From the viewpoint of biology the only immortality visible in nature is the life cycle whereby a parent hands on to offspring the heritage of the race. Death of the individual becomes part of life for the species. This is entirely consistent with the scheme of nature.

At the lower fringes of life living cells do not die, they divide into two. This is the manner of growth common both to the primitive unicelled plants and animals, and the most complex. With *protozoans* (before animal) this is sufficient. Minute one-celled plants such as diatoms and desmids swarm in all the seas and streams of the earth, releasing metabolically most of the free oxygen of the atmosphere and

mammals; he lacks the tooth and claw of the other predators, the speed and the stamina of the herbivores, and the warm clothing of the furbearers. He cannot run fast, he swims and dives very poorly, and he cannot fly at all. It is only his skill in the invention and use of tools, his facility in communication, and his ability to think conceptually that has made him able not only to survive but to compete with and actually dominate most other animals.

Our present knowledge of our biological evolution, however – though still fragmentary – leads me to believe that man will, in spite of all odds, continue to survive on this planet. He will, no doubt, be forced by his social structure and physical environment to change himself in many ways in order to maintain his position of dominance. And man will not survive forever, since earth will not survive forever. Yet for many thousands of generations to come, he will remain a creature of earth.

But only if man continues to seek perfection and, facing upward, continues to climb, will he fulfill his purpose. For survival and self-enlargement are not, I think, his ultimate reason for being, or even his final goal, though for a very long time these efforts will have to occupy much of his time.

Actually, the evolution of the human being has only well begun. To reach his full potential man will require a great deal more time during which he will face hazards which are nearly insurmountable. But man is familiar with hazard. His species has always lived dangerously. Looking back over the past three million years it seems miraculous that he has endured thus far – and not only endured but managed to become the most widely spread and most numerous of all large animals

Man's progress from this point on will be like the ascent of a difficult mountain peak. It will require a team effort and become a relay race against time. We who have begun

To inspire, direct, and coordinate this symphony of nature is the brain, at birth a multi-track magnetic tape, already coded by inheritance with superior knowledge but open still to limitless learning. On track one a certain innate knowledge – so far little understood by adults though some are beginning to think it far more extensive than it had at first appeared. Track two, apparently almost blank, will quickly – responding to the budding senses – fill with appropriate reactions to physical stimuli – hunger, discomfort, blinding light, loud noises, and pain of any sort. Track three may be more in tune to emotional influences – fear, frustration, affection, joy and sorrow; while track four, to follow our analogy, is open for endless learning of an intellectual nature. No one knows its greatest potential, for the wisest man who ever lived was, without doubt, able to learn something more each day of his life.

And there is at least one more track – that of the inner light – that of spiritual concepts. Psychologists will most likely disagree, but I would include in this horizon the perception and appreciation of beauty, whether in things seen, heard, smelled, tasted, or touched. Certainly things remembered must be things learned, and who has not vivid memories of cloud forms and sunsets, sweet music and gay laughter, the scent of roses, the touch of a beloved lip? Also on this track dwell our deepest emotions: love and affection, a sense of the divine, our greatest joys and deepest sorrows. It is here that man most nearly approaches his maker, comes closest to de Chardin's "convergence" – becoming "one with God."

Man, the human animal, appears to be ill-equipped by nature for survival. He is one of the least specialized of all

becoming the basis of an ever expanding chain of nutrient substances, which leads finally up to man and the few other animals who feed from the top of the protein pyramid. Binary fission provides also for the growth of tissue in more complex forms of life. However, fission makes no provision for diversification. Muscle cells grow only muscle, bone cells only bone, and nerve cells only nerve tissue. For this reason organisms which depend solely upon cell division for growth can never change. The diatoms laid down as fossil materials in the earliest known rocks are the same species of diatoms which swarm in today's seas.

Therefore, physical growth was not enough. Nature demands growth, but it desires variety. Sexual reproduction was the answer. With the invention of sex, change became not only possible, but inevitable. With binary fission nothing except the nutrients and energy to sustain growth was added, which is why variation was not possible. But with sexual reproduction, the joining of two cells from different parents, variety was unlimited. Earth-life went wild.

Those cosmologists who are also philosophers (and I cannot imagine a cosmologist who is not also a philosopher) present two divergent concepts as to the nature of the universe. To some the universe with its countless celestial bodies moving tirelessly in space, each in its appointed time and place, and each in its exact relationship to the others, is like a gigantic, efficient, finely-tuned machine – a machine as predictable and as reliable as the finest clock – in fact a mechanism by which clocks can be timed and regulated.

The counter thesis, to which I am inclined, is that the cosmos is more like a vast organism, a living, growing entity, governed by the rules of physics and chemistry but possessed

with a guiding spirit external to itself. So I say with the Psalmist, that the universe can also be said to be like a tree planted by the rivers of divine waters, there to bear fruit in its season. Earth, a tiny speck in the vastness of the cosmos, is surely to a degree organic. Like a tree, earth lives and grows organically only at its surface, but, also like a tree, that thin layer of growth called the biosphere is rooted in good earth and in the comforting atmosphere which surrounds it.

Persisting in my metaphor I liken people, perhaps all living things, to the leaves of this earthbound tree, for it is the leaves which grow, do work, and produce substance that the tree may prosper, blossom, and produce fruit “in its season.” People, like leaves, live but a season, though in falling they enrich the earth and make room for new generations. So, again like people and all animate things, the leaf dies but because of its life and death the tree prospers and life enlarges. Man is mortal but life is immortal.

Neither I nor Jean Paul Sartre were the first to give the human animal low rating in the economy of nature. Plato in his famous book *The Republic*, wrote: “No human being is of serious importance.” And a bit later Gaius Petronius, a Roman (d. 66 A.D.), was heard to comment that a man is “not worth his salt.” Even so, I hold to the assumption that, if for no other reason than that Nature has endowed man with a capacity for reasoning above that of all her other children, he must somewhere, at some level, have a significant role to play in the scheme of things.

We, therefore, conclude that it is of first importance for man to discover that purpose and at least try to fulfill that destiny. To this end the advice of my beloved Quaker friend E. Raymond Wilson should be most helpful. Ray told me that in his belief the highest duty of man is “to be ever aware of the presence of God; and ever willing to follow his

leading.” Norman Cousins gave me similar wisdom in different words. He wrote: “Man’s highest duty is to justify the gift of life; whether to God, himself, his fellow man, or to the earth which bore him.” And then it was Right Reverend Robert Runcie, the Archbishop of Canterbury, who told me what would be the best possible way to discharge this duty, by quoting to me that humble prayer of the saintly Francis (1182-1226): “Lord, make me an instrument of thy peace. Where there is hatred, let me sow love. Where there is injury, pardon. Where there is doubt, faith. Where there is despair, hope. Where there is darkness, light, and where there is sadness, joy.”

A human child is a marvelous creation. Helpless and unlearned, yet overflowing with promise. In the words of Alfred Tennyson (1809-1892): “But what am I? An infant crying in the night: an infant crying for the light: and with no language but a cry.” Tennyson had read Pliny (ca. 23-79), who in his *Natural History* had written: “Man is the only one that knows nothing, that can learn nothing without being taught. He can neither speak nor walk nor eat, and in short he can do nothing at the prompting of nature only, but weep.”

At first glance the human infant is but a useless toy; you couldn’t sell him; you would have trouble giving him away. But don’t despair. That limp body contains a wondrous mechanism; that rotund head a self-programming computer, superior to any made by man. And those awkward legs and arms will quickly learn an amazing cunning. Legs and feet, though they comprise an overly large percentage of body, are of limited usefulness, being employed chiefly for lifting the body off the ground and moving it here and there. But arms and hands can work miracles such rare miracles as loving gestures, exquisite art, noble cathedrals, and from instruments devised of wood and string, the sweetest music known to man.