Loren Eiseley's "Invisible Pyramid"

Presented by Dr. Bing Chen

To the Friends of Criss Library

Thursday, January 18th, 2007

This presentation on Loren Eiseley occurs in the centennial year of his birth and marks the first of a number of events that the Friends of Loren Eiseley intend to host in 2007. In my mind few authors have Loren Eiseley's rich and lyrical way of expressing a view of nature and humankind which is at the same time deep and profound. In our times, his words can be viewed as that of a modern shaman as we enter this new millennium, one filled with shifting geo-politics, increasing population numbers, degrading environments, rapid resource depletion, heightened insecurity and a loss of biodiversity that may yet rival that of the Permian extinction. In Invisible Pyramid, Eiseley speaks to each of these issues and like the Taoist scholars of ancient China before him, he points to a direction which we must follow as a species if we wish to find our way out of this dilemma, to find our way home.

Born on September 3, 1907, in Lincoln, NE, Loren Eiseley would grow up in a world of ponds, sewers and Golden Wheels. The pond taught Eiseley of the breadth of life while in counterpoint the sewers taught him of darkness and death. A golden wheel, part of a discarded erector set missing its second wheel was found in the debris of a rich family's incinerator. The young Eiseley would search in vain for its twin, a search that would become a metaphor for humankind's Holy Grail, the search for life's meaning.

As a university student at the University of Nebraska-Lincoln, Eiseley's literary creativity would blossom. He served as associate editor of the Prairie Schooner (1927-33) and also participated in archaeological and paleontological expeditions to the far reaches of the state. These early experiences and talents would fuse together to inspire his future masterpieces in nature writing. He would receive his PhD in anthropology from the University of Pennsylvania in 1937 and serve in a number of teaching and administrative positions until his death in 1977.

Eiseley offers sobering advice to humankind in the 20th century and our cavalier mistreatment of the environment and our need to remember where our journey first began as a species. Taken from the prologue to the Invisible Pyramid,

"Man would not be man if his dreams did not exceed his grasp...If I term humanity a slime mold organism it is because our present environment suggests it. If I remember the sunflower forest it is because from its hidden reaches man arose. The green world is his sacred center. In moments of sanity he must still seek refuge there....I know that we exist in the morning twilight of humanity and pray that we survive its noon....Man is the solitary

arbiter of his own defeats and victories. I have mused on the dead of all epochs from flint to steel. They fought blindly and well against the future, or the cities and ourselves would not be here. Now all about us unseen, the final desperate engagement continues...If man goes down I do not believe that he will ever again have the resources or the strength to defend the sunflower forest and simultaneously to follow the beckoning road across the star fields. It is now or never for both, and the price is very high....Man has fought his way from the sea's depths to Palomar mountain. He has mastered the plague. Now, in some final Armageddon, he confronts himself.

As a boy I once rolled dice in an empty house, playing against myself. I suppose I was afraid. It was twilight, and I forgot who won. I was too young to have known that the old abandoned house in which I played was the universe. I would play for man more fiercely if the years would take me back." *Pg 2, 3*

In chapter one, The Star Dragon, Eiseley sets the stage of Western man's surprise that "time" as was believed in medieval times to be several thousand years would instead be extended for uncounted eons. As he does frequently in his writing he begins with a childhood experience in recalling his Father's admonition that if he, Loren, lived to be an old man he might see Halley's Comet again. Eiseley then employs the cycle of Halley's Comet to serve as metaphorical clock peering backwards as questions are asked of the explorers Meriwether Lewis and William Clark's 1804 voyage to the west, "Tell us what is new".

"It was life itself that was eternally, constantly new. Dust settled and blew the same from age to age; mountains were worn down to rise again. Only life, that furtive intruder drifting across marsh and field and mountain, altered its marks upon the age old stage. And as the masks were discarded they did not come again as did the lava of the upthrust mountain cores. Species died as

individuals died, or, if they did not perish, they were altered beyond recognition and recall. Man cannot restore the body that once shaped his mind…..The only thing which infuses a handful of dust with such uncanny potential is our empirical knowledge that the phenomenon called life exists, and that is constantly pursue an unseen arrow which is irreversible." *Pgs 15, 16*

Eiseley is at his poetic best in his description of evolution and the impact of genetic mutation. He argues that the essential theme upon the great stage of life was that the essential process of specialized biological adaptations frequently ended with extinction,

"Restricted and dark were many of these niches, and equally dark and malignant were some of the survivors. The oblique corner with no outlet had narrowed upon them all. Biological evolution could be defined as one long series of specializations- hoofs that prevented hands, wings that, while opening the wide reaches of the air, prevented the manipulation of tools. The list was endless. Each creature was a tiny fraction of the life force, the greater portion had died with the environments that created them. Others had continued to evolve, but always their transformations seemed to present a more skilled adaptation to an increasingly narrow corridor of existence. Success too frequently meant specialization, and specialization, ironically was the beginning of the road to extinction. This was the essential theme that time had dramatized upon the giant stage." *Pg 17*

Of humankind, Eiseley states that the human brain, tongue and hand would henceforth allow the species to avoid what so many other species could not avoid, the trap of specialization which inevitably led to extinction,

"In three billion years of life upon the planet, this play had never been acted upon the great stage before. We come at a unique moment in geological history, and we ourselves are equally

unique. We have brought with us out of the forest darkness a new unprophesiable world- a latent, lurking universe within our heads….Man alone had seemingly evaded the oblique trap of biological specialization. He had done so by the development of a specialized organ, the brain- whose essential purpose was to evade specialization. … The creature who had dropped from some long-ago tree into the grass had managed to totter upright and free the grasping forelimb. Brain, hand, and tongue would henceforth evolve together. Fin, fur, and paw would vanish into the mists of the past. Henceforth it would be the brain that clothed and unclothed man. Fire would warm him, flint would strike for him, vessels would carry him over dangerous waters." *Pgs 18-19*

Eiseley speculates on the large number of extinctions of species while man survived the last ice age and with the changing environment forced man onto the path that would lead to civilization, the rise of agriculture,

"…in contrast to the situation at the close of the age of reptiles, with a narrowly demarcated line of a few thousand years in which a great variety of earth's northern fauna died out while man survived. Along with the growing dessication of Southwest Asia, these extinctions gave man, the hunter, a mighty push outside his original game-filled Eden. He had to turn to plant domestication to survive and plants it just happens, are the primary road to a settled life and the basic supplies from which cities and civilizations arise." *Pgs 25, 26*

In chapter two, Cosmic Prison, Eiseley questions the ebullience of politicians following our landing on the moon that, "We are the masters of the universe. We can go anywhere we choose", as a dangerous illusion with no basis in reality. Traveling 240,000 miles in a cramped vehicle does not create a star traveler. The time of Halley's orbit around the sun which Eiseley had hoped to witness a second time in his own lifetime was but the span of a mayfly's life within

a year relative to a journey to the stars. The distant galaxies are receding from our own galaxy at a speed exceeding any probe humankind could hope to fabricate. What we can view with our furthest telescopes is already close to ten billion years old.

There are also prisons of light, smell and temperature. Eiseley talks of a world denied to him, a "smell universe" of his dog Beau on their walks together in the woods. Beau lived in a different world unattainable to his master but their universes would intersect successfully in one of mutual good will and affection.

In answer to an astronomer's statement that, "Other stars, other planets, other life and other races of men are evolving all along so that the net effect is changeless" implying that the evolutionary process was the same everywhere and always emerged with men at the helm of life, Eiseley replies that even on earth this was not true so how could it be true for a distant planet circling another star? Two continents of Earth, South America and Australia did not result in the rise of man. One, Australia did not result in primates of which man is a descendant and the other, South America, due to its heavy annual flooding, may have not permitted ground-dwelling experiments to occur even thought they were from the same order of primates as in Africa so the great apes did not arise in the new world.

"They had failed…simply because the great movements of life are irreversible, the same mutations do no occur, circumstances differ in infinite particulars, opportunities fail to be grasped, and so what once happened is no more. The random element is always present, but it is selected on what …..has preceded its appearance….Nature gambles but she gambles with constantly new and altering dice…making long-range evolution irreversible…. Finally there are meteorological prisons…that created the first vertebrates and indirectly, man. If early rivers had not poured from the continents into the sea, the first sea vertebrates to penetrate streams above sea level would have evolved a rigid muscular support, the spine, to enable them to wriggle against down-rushing currents. And, if man, in his early history, had not become a tree climber in tropical rain forests, he would never have further titled that same spine upright or replace the smell prison of the horizontal mammal with the stereoscopic, far ranging "eye-brain" of the higher primates…The cosmic

prison is subdivided into an infinite number of unduplicable smaller prisons, the prisons of form…The cosmic prison which many men, in the excitement of the first moon landing, believed we had escaped still extends immeasurably beyond us. The present lack of any conceivable means of star travel and the shortness of our individual lives appear to prevent the crossing of such distances." *Pgs 44, 45*

In spite of our cosmic prison Eiseley states that there have been persons of wisdom,

"We are men, and despite all our follies there have been great ones among us who have counseled us in wisdom, men who have also sought keys to our prison,….the farthest spaces lay within the mind itself – as though we still carried a memory of some light of long ago and the way we had come." *pg 46*

Eiseley recounts the need for inner stability and automated control systems starting at the cellular level and progresses to warm blooded versus cold blooded creatures with a quote from a Greek philosopher, "The flaw is in the vessel itself", and by extension "the flaw that defeats all governments".

"For life to obtain relative security from its fickle and dangerous outside surroundings the animal must be able to sustain stable, unchanging conditions within the body. Warm-blooded mammals and birds can continue to move about in winter; insects cannot. Warm-blooded animals such as man, with his stable body temperature, can continue to think and reason in outside temperatures that would put a frog to sleep… Many millions of years of evolutionary effort were required before life was successful in defending its internal world from the intrusion of the heat or cold of the outside world of nature…..One of the great feats of evolution, perhaps the greatest, has been this triumph of the interior environment over exterior nature….and by slow

degrees has won the battle of life. If it had not, man, frail main with his even more fragile brain, would nod exist…Body controls are normally automatic, but let them once go wrong and outside destroys inside. This is the simplest expression of the war of nature – the endless conflict that engages the microcosm against the macrocosm...To the day of our deaths we exist in an inner solitude that is linked to the nature of life itself. As we project love and affection upon others we endure a loneliness which is the price of all living consciousness – the price of living." Pg 47

Eiseley concludes the Cosmic Prison with that limitless space does not confine humankind,

"The body is the true cosmic prison, yet it contains, in the creative individual, a magnificent if sometimes helpless giant." Pg 49

After quoting John Donne, "Our creatures are our thoughts...thoughts reach all, comprehend all", Eiseley moves onto the final triumph of biologist, Claude Bernard's interior microcosm (inside the cell) in its war with the macrocosm (or the world outside the cell), and presents this as a key to humankind's cosmic prison,

"Inside has conquered outside. The giant confined in the body's prison roams at will among the stars. More rarely and more beautifully, perhaps, the profound mind in the close prison projects infinite love in a finite room. This is a crossing beside which light-years are meaningless. It is the solitary key to the prison that is man." Pg 49

In chapter three, The World Eaters, Eiseley introduces the concept of slime molds and their parallel existence and similarity to human cities,

"Perhaps man, like the blight descending on a fruit is by nature a parasite, a spore bearer, a world eater. The lime molds are the only creatures on the planet that share the ways of man from his

individual pioneer phase o his final immersion in great cities. Under the microscope one can see the mold amoebas steaming to their meeting places….magnified many thousand times and observed, their habit would appear close to our own…..At the last they thrust up overtoppling spore palaces, like city skyscrapers…It is conceivable that in principle man's motor throughways resemble the slime trails along which are drawn the gathering mucors that erect the spore palaces, that man's cities are only the ephemeral moment of his spawning, that he must descend upon the orchard of far worlds or die… The cycles of parasites are often diabolically ingenious. It is to the unwilling host that heir ends appear mad. Has earth a new disease – that of the world eaters? Then inevitably the spores must fly. Short-lived as they are, they must fly. Somewhere far outward in the dark, instinct may intuitively inform then, lies the garden of the worlds. We must consider the possibility that we can not know the real nature of our kind." *Pgs 54, 55*

Eiseley hopes that man may yet attain wisdom as he pursues the pathways of darkness in space,

"Or again, the dark may bring him wisdom. I stand in doubt…at the edge of a shrinking forest. I am a man of the rocket century; my knowledge, such as it is, concerns our past, our dubious present, and our possible future. I doubt our motives, but I grant us the benefit of the doubt and like Arthur Clarke, "childhood's end"." *Pg 55*

In a gesture to save a floating milkweed seed in winter, Eiseley plants it in a field which leads him to hold a glimmer of hope for man,

"Perhaps there lingered enough of a voyager to help all travelers on the great highway of the winds. Or perhaps I am not yet totally a planet

eater and wished that something green might survive…suggests that something is still undetermined in the psyche, that the time trap has not yet closed inexorably. Some aspect of man that come with him from the sunlit grasses is still instinctively alive….The future, formidable as a thundercloud is still inchoate and unfixed upon the horizon." *Pg 56*

Once confined to the European nations, the term world eaters now applies to most of the planet as Russia, India and China rush in to "catch" up and surpass the west.

"So quick and so insidious has been the rise of the world virus that is impact is just beginning to be felt and history to be studied. Basically man's planetary virulence can be ascribed to just one thing: a rapid ascent, particularly in the last three centuries, of an energy ladder so great that the line o n the chart represent it would be almost vertical. The event, in the beginning, involved only Western European civilization. Today it increasingly characterizes most of the planet." *Pg 65*

In chapter four, The Spore Bearers, Loren Eiseley explores the parallels between civilization and its drive to reach the stars and revisits the life cycle of the slime molds with their spore palaces.

"It is a remarkable fact that much of what man has achieved through the use of his intellect, nature had invented before him. Pilobolus, another fungus which prepare, sight, and fires its spore capsule, constitutes a curious anticipation of human rocketry. To fulfill its life cycle, its spores must be driven up and outward….The spore tower that discharges the Pilobolus missile is one of the most fascinating objects in nature. A swollen cell beneath the black capsule that contains the spores is a genuinely light-sensitive "eye"…that controls the direction of growth of the spore cannon and aims it at the region of greatest light. When a pressure of several atmospheres has been built up chemically

within the cell underlying the spore container, the cell explodes, blasting the capsule several feet into the air. *Pg 75*

Eiseley now employs this as metaphor to humankind's endeavors into space,

"Man too is a spore bearer. The labor of millions and the consumption of huge stores of energy are necessary to hurl just a few individuals…on the road toward another planet. Similarly, for every spore city that arises in the fungus world, only a few survivors find their way into the future." *pg 76*

Talks by futurists such as Gerald O'Neill of moving excess human populations to other planets are answered by Eiseley in this way,

"It is useless to talk of transporting the excess population of our planet elsewhere, even if a world of sparkling water and green trees were available. In nature it is a law that the spore cities dies, but the spores fly on to find their destiny…Somehow in the mysterium behind genetics, the tiny pigmented eye and the rocket capsule were evolved together." *pg 76*

Because of our nascent efforts to send astronauts into Earth orbit and several brief visits to the moon and with our instruments and probes reaching further into the solar system and the nearby star systems, Eiseley ponders our search for life elsewhere,

"…because man is…growing ever lonelier in his expanding universe there remains a question he is unlikely ever to be able to answer…discovery of other civilizations in the cosmos. In some three billion years of life on this planet, man, who occupies a very small part of the geological time scale, is one creature of earth who…can reason on a high abstract level. He has only grasped the nature of the stars within the last few generations. Some may possess planets. Fewer still, infinitely fewer will what could be

called "civilizations" developed by other rational creatures … Man's end may well come upon him long before he has had time to locate or even to establish the presence of other intelligent creatures in the universe…In gambling terms, the percentage lies all with the house, or rather with the universe….Lonely thought we may be, man may pass from the scene without possessing either negative or positive evidence of the existence of other civilized beings in this or other galaxies." Pgs 78, 79

Eiseley does account for the possibility of some human-machine partnership that could range from a cyborg (cybernetic organism) as in Aliens or a pure machine intelligence as in the case of HAL from 2001 who infused with a human personality, may yet journey for man,

"the product of biology and computerized machine technology beyond anything this century will possess – might be launched by man and dispersed as his final spore flight through the galaxies. Such machines would not need to trouble themselves with the time problems and, as the capsule of Pilobolus carry spores, might even be able to carry refrigerated human egg cells held in suspended animation and prepared to be activated, educated and to grow up alone under the care of the machines. The idea is fantastically wasteful, but so is life. These human-machine combinations are much spoken under the term "cyborg….Science has speculated that man has reached an evolutionary plateau. To advance....he must either intimately associate himself with machines in a new way or give way to "exosomatic evolution" and, transfer himself and his personality to the machine." Pg 80

Is there a way to foretell the future of humankind? Eiseley states that we have had a tendency to disperse since the beginning and that this impulse continues to drive us,

"Sight of the future is denied us…To what far creature, whether of metal or of flesh, we may be the bridge…If such a being is

destined to come, there can be no assurance that it will spare a thought for the men...who prepared its way. Man is part of that torrential living river, which, since the beginning, has instinctively known the value of dispersion. He will yearn…to spread beyond the planet he now threatens to devour. This thought persists and is growing. It is rooted in the psychology of man." *Pg 81*

Eiseley quotes the Buddha as saying to his followers "Walk on" as he lay dying. Man stands on the precipice of space exploration and travel, and no matter in what final form we might be, this will not bring peace into man's soul,

"The Buddha wanted his people to be free of earthly entanglement or desire. That is how one should go in dignity to the true harvest of the worlds…one cannot proceed upon the path of human transcendence until one has made interiorly in one's soul a road into the future. This is the warning of one who knew that the space within stretch as far as those without. Cyborgs and exosomatic evolution, however far they are carried, partake of the human virus…..will never bring peace to man, but they will harry him onward through the circle of the worlds." *Pgs 81 & 82*

Our scientific civilization and its character is explored next by Eiseley as he takes on the theme zeitgeist, the idea of forms from Oswald Spengler and his book, *The Decline of the West,* "lurking within the culture from which the rocket was to emerge" and the spirit of Faust,

"Faustian culture – our own – began as early as the eleventh century with the growing addiction to great unfillable cathedrals with high naves and misty recesses" like "a bow always tending to expand". Hidden within its tensions is the upward surge of the space rocket... The legend of Faust to this day epitomizes the West; the Quest of the Holy Grail is another of its Christian symbols… Faustian man is never at rest in the world. He is never the contemplative beneath the sacred Bo tree of the Buddha. He

is the embodiment of a restless, exploratory, and anticipatory ego. In its highest moments, science could also be said....to be a search for the Holy Grail." *Pgs 84, 85*

Eiseley discusses two kinds of invention: those of understanding and those of power, that the scientific method was initially one of understanding. To Eiseley "invention can denote ideas far removed from the machines. As an example Eiseley takes the zero invented by the Hindus and by the Maya as lying at the root of all complicated mathematics, yet it is not a thing rather it is a "no thing",

"One might say than an unknown mathematical genius seeking pure abstract understanding was a necessary prehistoric prelude to the success for the computer. He was also, and tragically, the possible indirect creator of world disaster in the shape of atomic war." *Pgs 86 and 87*

The journey taken has led to the Pyramids and hence to the title of the book,
He quotes a 17th century writer "Traveling long journey is costly, at all time troublesome, at some times dangerous",

"Today, we contemplate roads across the planetary orbits, the penetration of unknown atmospheres…an effort that is primary obsession of the great continental powers….an outpouring of wealth and inventive genius so vast.-equivalent to the building of the Great Pyramid at Giza…Indeed, there is a sense in which modern science is involved in the construction of just such a pyramid, though an invisible one." *Pg 87*

Eiseley next discusses "eyes of understanding" from Palomar Mountain to the electron microscope. To Eiseley these eyes balance and steady each other, one which reaches with its great lens to where the Immense Journey began cosmically to eyes which "peers deep into our own being" and together "give our world perspective. They place man where he belongs". Eiseley refers to modern shamans, seers who fear the ramifications of the huge industrial complexes with a quality that is threatening and cataclysmic.

"The balanced eye, the rare true eye of understanding, can explore the gulfs of history in a night or sense with uncanny

accuracy the subtle moment when a civilization in all its panoply of power turns deathward….There will never be enough men or material for a multitudinous advance on all fronts – even for a wealthy nation. Thus, as our technological feats grow more costly, the objectives of our society must be assessed with care. From conservation to hospitals, from defense to space, we are forced by circumstance to live more constantly in the future. Random "tinkering", random response to the unexpected, become extraordinarily costly in the industrial world which Western society has created…the unexpected comes with increasing rapidity upon future-oriented societies such as ours. Psychological stresses appear. The current generation feels increasingly alienated from its predecessors… its metabolism has been feverishly accelerated." *Pgs 88 and 89*

Eiseley asks what is the objective of our civilization? Is it scientific or military? He returns to his spore bearers theme once again,

"Is there some unconscious symbolism at work? At heart, does each one of us, when a rocket hurtles into space, yearn once more for some lost green continent under other skies? Is humanity, like some ripening giant puffball, feeling the mounting pressure of the spores within?...driven by the migrating impulse of an overpopulated hive?" *Pg 90*

In referring to his book, The Man Who Saw Through Time, Eiseley explores Bacon's model which would lead to the rise of Western civilization with a warning,

"Science has risen in a very brief interval into a giant social institution of enormous prestige and governmentally supported power. To many, it replace primitive magic as the solution for all human problems…Western man with the triumph of the

experimental method, has turned upon the world about an intellectual instrument of enormous power….Science has solved the mysteries of microbial disease and through the spectroscope has determined the chemical composition of distant stars." *Pg 92*

Taoist scholars warn that in the brightest of light, there is a latent darkness which however miniscule lurks waiting to overtake the light. Eiseley expresses his dark fears for our future,

"The inventions of power have grown monstrous in our time. Man's newfound ingenuity has given him health, wealth, and increase but there is added the ingredient of an ever-growing terror. Man is only beginning dimly to discern that the ultimate menace, the final interior zero, may lie in his own nature….that to understand life man must learn to shudder ….. Fragments of his fears, his angers, his desires, still stream like midnight shadows…His unthinking jungle violence, inconceivably magnified may determine our ending." *Pg 93*

Eiseley, however, does close "Spore Bearers" with a small ray of hope,

"Still by contrast, the indefinable potentialities of a heavy-browed creature capable of pouring his scant wealth into the grave in a gesture of grief and self-abnegation may lead us at last to some triumph beyond the realm of technics. Who is to say?" *Pgs 93,94*

In chapter five, The Time Effacers, Loren Eiseley is concerned about Western man's focus on novelty and the future, a disdain for the present and a hatred for the past. He introduces the concept of the world eaters.

"There are two diametrically opposed forces forever at war in the heart of man: one is memory, the other is forgetfulness." *Pg 97*

Past instances of such behavior include the erasure by Ramses of all references to Akhenaton who introduced monotheism to Egypt, the total destruction of Carthage by the Romans, the

French Revolutionists who sought to eliminate the Christian calendar, the destruction of all vestiges of the Inca after the Spanish conquest. Eiseley states that "Today's youth revolt is partly aimed at the destruction of the past and the humiliation of the previous generation".

A friend of Eiseley asks him, "Every culture has a built-in clock but in what other culture than ours has time been discovered to contain novelty? In what other culture would leaves, these yellow falling leaves be said to be emergent and not eternal?" Eiseley replies,

"Evolutionary time, the time of the <u>world eaters</u> – ourselves." *Pg 103*

In a manner similar to Thoreau's statement, "Every man tracks himself through life" which means that the individual in all their reading, traveling, and observations would only follow their own footprints through the snow and "would see what his temperament dictated, hear what voices his ears allowed him to hear, and not one whit more. This is the fate of every man". Eiseley likens this to civilization itself which has been documented by Jared Diamond in his book, <u>Collapse</u> where he traces the course of why certain societies fail while others succeed.

"Civilizations which are the products of men are in their way equally obtuse. They follow their own tracks through a time measurable in centuries or millennia, but they approach the final twilight with much the same set of postulates in which they began. Of these the most intensely aggressive has been that of the West, which the last three centuries gave rise to modern science,…aggressive in the sense of a time-conscious, future-oriented society of great technical skill, which has fallen out of balance with the natural world about it. First of all it is a consumer society which draws into itself raw materials from remote regions of the globe. These it processes into a wide variety of good which a high standard of living enables it to consume….In simple terms the rise of a scientific society means a society of constant expectations directed toward the oncoming future….What we seek, in the end, is Utopia. In the endless pursuit of the future we have ended by engaging to destroy the present. We are the greatest producers of non degradable

garbage…our cities following a winter snowfall quickly turns black from pollutants.” *Pgs 103,104*

Jacques Ellul, in his seminal work, “The Technological Society” speaks of the danger of technology taking on a life of its own independent of its creators ability to control it, a popular theme by speculative fiction authors such as Karel Capek’s RUR and James Hogan’s Two Faces of Tomorrow , a theme which Eiseley also recognizes,

“On a huge industrial scale…we have unconsciously introduced a mechanism which threatens to run out of control. We are tracking ourselves into the future…Once the juggernaut is set in motion, to slow it down or diverts its course is extremely difficult because it involves the livelihood and social prestige of millions of workers. The future becomes a shibboleth which chokes our lungs, threatens our ears with sonic booms, and sets up a population mobility which is destructive in its impact on social institutions. In the extravagant pursuit of a future projected by science, we have left the present to shift for itself. We have regarded science as a kind of 20th century substitute for magic, instead of as a new and burgeoning social institution whose ways are just as worthy of objective study as our political or economic structures…We constantly treat our scientists as soothsayers and project upon them questions involving the destiny of man over …millions of years…We are titillated and reassured by articles in the popular press sketching the ways in which the new biology will promote our health and longevity while at the other end of the spectrum, hover the growing shadow of a locust swarm of human beings engendered by our successful elimination of famine and plague.” *Pgs 105, 106*

In chapter six, Man in the Autumn Light, Eiseley will discourse on creation of our own phantom universe which is “culture” and the importance of poets ability to reach backwards and forwards

in time. He speaks of different realities. A Brazilian fish (member of the cyprinodonts has a unique and special eye lens that permits it to see life above in the sky and simultaneously to be able to peer into the murky depths below, a dual vision. The poet William Blake asserted he also saw with a double vision into a world beyond the realm of facts. Poets are protectors of the human spirit but are threatened with extinction in the fruition time of the world eaters. Poets have a "preternatural sensitivity to backward and forward reaches of time" and, "this venerable word-loving trait in man is what enables him to transmit his eternal hunger – his yearning for the country of the unchanging autumn light. Words are mans domain from his beginning to his fall". Later he quotes from Emerson, "The poet like the lightning rod must reach from a point near the sky than all surrounding objects down to earth, and into the dark wet soil, or neither is of use". Eiseley voices his opinion that the effort is not demanded of the poet but for all of us, "Without it there can be no survival of mankind, for man himself be his last magician."

Eiseley then focuses on culture,

"Man is no more natural than the world. In reality he is the creator of a phantom universe, the universe we call culture – a formidable realm of cloud, shapes, ideas, potentialities, gods, and cities, which with man's death will collapse into dust and vanish back into "expected" nature." *Pg 120*

Eiseley will describe a camping trip into Absaroka Range along the headwaters of the Bighorn River in Wyoming where he stumbles onto an archaeological site with flaked spearpoints in a place where time is without meaning,

"This was a country in which time had no power because the sky did not know it, the aspens had not heard it passing, the river had been talking to itself since before man arose and in that country it would talk on after man had departed…I was alone with the silvery aspens in the mountain light, looking upon time thousands of year remote…My own race had no role in these mountains and would never have…It was a place to meet the future quite as readily as the past." *Pg 121*

The theme of the spore bearers from the last chapter is revisited again and united to the world-eaters,

"The world eaters with their insatiable hunger for energy quickly ran through nature; ….They had, like all the spore-bearing organisms, an instinctive hunger for flight. They wanted more from the dark storehouse of a single planet than a panther's skin or a buffalo robe could offer. They wanted a greater novelty, only to be found far off in the orchard of the worlds…When the swarming phase of our existence commences, we struggle both against the remembered enchantment of childhood and the desire to extinguish under layers of concrete and giant stones." Pg 123

Michael Woods in Legacy speaks of the need for us to understand the unique paths taken by past ancient civilizations and the need for the West to ask itself what lessons can be learned from these other paths (including its own) and which path it should take now. Eiseley also speaks of the unique path taken by each civilization,

"Every civilization, born like an animal body, has just so much energy to expend. In its birth throes it chooses a path, the pathway perhaps of a great religion…or an empire of thought is built among the Greeks, or a great power extends its roads and governs as did the Romans. Or again, its wealth is poured out upon science, and science endows the culture with great energy, so that far goals seem attainable and yet grow illusory. Space and time widen to weariness. In the midst of triumph disenchantment sets in among the young. It is as though with the growth of cities an implosion took place, a final unseen structure, a spore-bearing structure, towering upward toward its final release." Pg 132

In perusing the broken trunks from a broken forest, Eiseley re-introduces the Invisible Pyramid of Western man,

"This was the pyramid that our particular culture was in the process of creating. It represented energy beyond anything the world of man had previously known. Our first spore flight had

burst against the moon and reached toward Mars, but is base was slime-mold base – spore base of the world eaters. They upon the world, and the resources they consumed would never be duplicable again because their base was finite. Neither would the planet long sustain this tottering pyramid thrust upward from what had once been the soil of a consumed forest." *pg 133*

In chapter seven, The Last Magician, Loren Eiseley speaks of wise men and their world view. He lends his counsel to all of us,

"Every man in his youth…meets for the last time a magician, the man who made him what he finally to be. In the mass, man now confronts a similar magician in the shape of his own collective brain, that unique and spreading force which in manipulations will precipitate the last miracle, or, like the sorcerer's apprentice, wreak the last disaster. The possible nature of the last disaster the world of today has made all too evident: man has become as spreading blight which threaten to efface the green world that created him." *Pg 137*

We are reminded of our past as a pathway out of our present problems and the human dilemma,

"Collective man...at the climatic moment of his journey into space has met himself at the doorway of the stars. And the looming shadow before him has pointed backward into the entangled gloom of a forest from which it has been his purpose to escape. Man has crossed, in his history, two worlds. He must now enter another and forgotten one, but with the knowledge gained on the pathway to the moon. He must learn that, whatever his powers as a magician, he lies under the spell of a greater and a green enchantment which, try as he will, he can never avoid, however far

he travels. The spell has been laid on him since the beginning of time – the spell of the natural world from which he sprang." *Pg 139, 140*

Eiseley reviews the fossil record and notes that for a long period of time some millions of years long with little or no increase brain size even though simple tools were used,

"Then quite suddenly in a million years or so of Ice Age time the brain cells multiply fantastically …. Language, wherever it first appeared, is the cradle of the human universe, a universe displaced from the natural in the common environmental sense of the word. In this second world of culture, forms arise in the brain and can be transmitted in speech as words are found for them. Objects and men are no longer completely with the world we call natural…The past can be remembered and caused to haunt the present." *Pg 142*

In his book Legacy, Michael Woods describes the rise of the great Axis Age (the period near 500 BC) thinkers of antiquity who pondered the paths of civilizations already ancient and undergoing a crisis of spirit: Lao Tze, Confucius, the Buddha, Isaiah, Heraclitus and Pythagoras. Eiseley also speaks of these great thinkers as a model for us all,

"The story of the great saviors, whether Chinese, Indian, Greek, or Judaic, is the story of man in the process of enlightening himself, not simply by tools, but through the slow inward growth of the mind that made and yet master them through knowledge of itself." *Pg 155*

Loren Eiseley recounts the plight of the wounded Apollo 13 flight as a metaphor for humankind's search for its "golden wheel" and reconnects today's astronauts with whispers from the past,

"In the ancient years, when humankind wandered through briars and along windy precipices, it was thought well, when encountering comets or firedrakes, "to pronounce the name of God with a clear voice." This act was performed once more by many

millions when the wounded Apollo 13 swerved homeward, her desperate crew intent, if nothing else availed, upon leaving their ashes on the wind of earth. A love for the green meadows we have so long taken for granted and desecrated to our cost. Man was born and took shape among earth's leafy shadows. The most poignant thing the astronauts had revealed in their extremity was the nostalgic call still faintly ringing on the winds from the sunflower forest." Pg 156

Eiseley identifies the problems of population explosion and environmental degradation, and with an admonishment he counsels us to be conscious of where we came from and wherein the solution must lie.

"Creatures who evolve as man has done sometimes bear the scar tissue of their evolutionary travels in their bodies. The human cortex, the center of high thought has come to dominate, but not completely to suppress, the more ancient portions of the animal brain. We know that within our heads there still exists an irrational restive ghost that can whisper disastrous messages into the ear of reason. Today man's mounting numbers and his technological power to pollute his environment reveal a single demanding necessity: the necessity for him consciously to reenter and preserve, for his own safety, the old first world from which he originally emerged. His second world, drawn from his own brain, has brought him far, but it cannot take him out of nature, nor can he live by escaping his second world alone...He must make, by way of his cultural world an actual conscious reentry into the sunflower forest he had thought merely to exploit or abandon. He must do this in order to survive...Man must be his last magician. He must seek his own way home." Pgs 154, 155

Through countless eons, generation upon generation of struggle frequently at the brink of extinction, humankind's culture and technology have powered us into becoming the dominant species on earth. Our massive digging machines allow us to rip in one bite what took a hundred million years to accumulate. Yet with the massive "wealth" that some segments of humankind have accumulated, there is a murmuring of unease, a sense of disquiet, a foreboding that perhaps all is not well or as it should be. Our Faustian adventure has put us on the flyways to the solar system and opened the doorway to godlike power with an understanding of our DNA structure and our ability to open the doors to the first instant of creation. Yet our survival and growth as a species must be an inward looking journey, to find the way, the Tao, to be one with all that is nature. Three thousand years after the rise of Taoist philosophy from one of our earliest civilizations, Loren Eiseley, a 20th century shaman provides us with an insight on how to find the path for humankind's enlightenment at the new millennium. The immense journey continues but who plays next upon the great stage of life remains unanswered. If it is to be our descendants then "Man must reenter the sunflower forest...He must be his last Magician."

Once in a cycle the comet,
Doubles its lonesome track
Enriched with the tears of a thousand years,
Aeschylus wanders back.

- John G. Niehardt

The missing golden wheel, an event of Loren Eiseley's youth, is a metaphor for Mankind's search for the Holy Grail. It lies within humanity's collective soul, waiting to be found. It must be found or humankind's existence on Earth may be no more than that of the mayfly, a brief moment of flitting glory in the sunlight and then bidding adieu upon the great stage, but a thin sliver in the crust of geologic time. I pondered this as I walked back into a mist filled Grand Canyon on the first day of the new year, drawn once again into a mysterious world without time and timeless to regain my compass, to seek a renewal of spirit in preparation for this evening's talk. As Eiseley has said, "We are the solitary arbiter of our victories and defeats". His is the voice of a shaman for our troubled times, counseling humankind. He did not live to see the return of Halley's Comet but it is his hope that we who follow him, will see it far into the future eons and find our way home.