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Loren Eiseley: Becoming human

by

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INTRODUCTION

Odysseus' passage through the haunted waters of the eastern Mediterranean symbolizes, at the start of the Western intellectual tradition, the sufferings that the universe and his own nature impose upon the homeward-yearning man.

—Loren Eiseley
The Unexpected Universe

Loren Eiseley (1907–1977) was a respected author and anthropologist, trained also in geology and paleontology, whose many awards and honors include the Benjamin Franklin Professorship of Anthropology at the University of Pennsylvania and membership in the National Institute of Arts and Letters. He wrote scientific articles for professional journals, composed essays for lay periodicals, and narrated television programs and educational filmstrips on evolution. He also published twelve books and four volumes of poetry: The Immense Journey (1957), Darwin's Century (1958), The Firmament of Time (1960), Francis Bacon and the Modern Dilemma (1962), The Mind as Nature (1962), The Unexpected Universe (1969), The Invisible Pyramid (1970), The Night Country (1971), Notes of an Alchemist (1972)—poetry, The Man Who Saw Through Time (1973)—a revised edition of Francis Bacon, The Innocent Assassins (1973)—poetry, All the Strange Hours (1975), Another Kind of Autumn (1977)—poetry, The Star Thrower (1978), All the Night Wings (1979)—poetry, Darwin and the Mysterious Mr. X (1979). In spite of Eiseley's notable reputation and accomplishments,
intensive scholarship on him has only recently begun: since 1974, several extensive articles and dissertations about him have been published; a paper about him was presented at a conference on American popular culture; and the first annual Eiseley symposium was held in 1982 in Lincoln, Nebraska. To encourage further research on Eiseley, a Friends of Eiseley society, based in Lincoln, has been established.

Although extended research on Eiseley is only beginning, his books have been reviewed in newspapers, magazines, and journals by eminent anthropologists, historians of science, poets, and literary scholars. Most reviewers mention that Eiseley stresses the subjective aspects of science, urges both scientists and lay people to view nature with compassion, warns humankind of its aggressive characteristics, and encourages humankind to develop its sensibilities as well as technologies. While most reviewers conclude that Eiseley weaves autobiography skillfully and poignantly into his discussions of science, several suggest that he also uses it instructively in order to present himself as an example of how to live according to his scientific and philosophical principles.

Only three scholars have analyzed a body of Eiseley's work for consistent themes, structures, and implications. One is E. Fred Carlisle. Using The Immense Journey, The Firmament of Time, Darwin's Century, The Man Who Saw Through Time, and The Unexpected Universe as his basis for an article, Carlisle suggests that Eiseley is a heretical scientist for expanding his search for knowledge beyond the scientific method of experimentation, which emphasizes being objective about what
one studies. According to Carlisle, Eiseley believes he must study not only the world but also his reactions to the world; he cannot separate himself from nature and observe it objectively because he is part of nature. Thus Eiseley "recognizes the self as the origin of all knowledge," considering one's own feelings and imagination as important to explore as physical nature. Carlisle finds that the structure of Eiseley's essays reflects this subjectivity, for the "rhythm is from the self into the world and back; the structure implies interaction. . . ." Eiseley's subjective content includes his describing moments of merging with nature and extending his senses.

Because Carlisle believes that Eiseley's essays unite autobiography and science, he refuses to classify them as science, art, popular science, or natural history. Instead he suggests that the essays create a "new idiom" for both science and literature, one that simultaneously analyzes the world and contemplates the self. To Carlisle, Eiseley's personal quest for knowledge "relies on investigation and imagination for its insights." Therefore, Eiseley possesses an "inner sky" where "science, imagination, and feeling fuse into a vision of existence at once both personal and scientific."

Carlisle also contends that Eiseley transcends the label of traditional evolutionist, or practices science in other than only conventional ways, since he moves beyond mere reporting of evolutionary theory to writing from within it. Carlisle says that Eiseley feels awe and love for the world because he can see the generative and not just extintive role of evolution. These feelings allow Eiseley "to achieve
a biology which is only 'for the living'.” 7 The theory of evolution becomes a paradigm for Eiseley, serving as "a major structure for perceiving and comprehending experience." 8 Carlisle suggests that the theory influences Eiseley to view survival in more than just human terms. Eiseley urges his culture to insure that life in some form persists on earth into the future rather than to insure at any cost humankind's own particular survival.

In another article, Carlisle discusses Eiseley's earliest poems and his first two volumes of poetry, Notes of an Alchemist and The Innocent Assassins. 9 Carlisle traces the emergence and development of several themes which he finds are later "transmuted by the older man's experience and, above all, by his years as a professional scientist. . . ." 10 Carlisle contends that because Eiseley's poetic themes cannot be analyzed separately from his science, Eiseley creates a "new idiom" for poetry as he does for science and literature: "Scientific experience, fact, and knowledge fuse with subjectivity and imagination in a single unbroken meaning." 11 Carlisle implies that Eiseley again transcends labels, saying that Eiseley deliberately flees from "the neat cages we have built to separate animals, people, and gods, the past from the present or scientists from poets. . . ." 12

Another scholar who has studied a body of Eiseley's writing is James M. Schwartz, who in his dissertation discusses Eiseley's development as a creative writer in The Immense Journey, The Invisible Pyramid, and The Night Country. 13 Schwartz maintains that Eiseley moves from presenting facts about evolution in The Immense Journey to
expressing metaphorically humankind's relationship to nature in *The Invisible Pyramid*. Although Schwartz acknowledges the literary importance of autobiography in *The Immense Journey*, he feels that Eiseley uses language and structure more creatively in *The Invisible Pyramid*, where he develops metaphors and symbols more fully.

Schwartz calls *The Night Country* the most literary of the three works, feeling that Eiseley dwells upon "personal and societal desiderata" more than upon scientific information and that he freely uses autobiography, dreams, and symbols. To Schwartz, this work is "Eiseley's document of personal exploration," in which he recounts physical and spiritual journeys "into nature and self." Schwartz finds that the three works show Eiseley questioning "his own and man's individual and collective role in the evolution of the universe" and reveal Eiseley changing his literary emphasis "from a denotation of specific events to a connotative perspective encompassing the experience of all past, present, and future life on the planet."

Like Carlisle, Schwartz contends that Eiseley cannot be separated into artist or scientist.

Schwartz considers transcendence, or heightened awareness of self and nature, important in Eiseley's thought. Although Schwartz uses the term in several contexts, he mentions it primarily when referring to Eiseley's merging with elemental nature in moments of "revitalized consciousness." Schwartz finds that Eiseley urges people to rejuvenate their perceptions in order to create a closer relationship among
"self, nature, and evolution." Schwartz believes that Eiseley shows how he himself forges such a connection by narrating physical journeys that are metaphors for spiritual journeys and by recounting personal moments of expanded awareness. Schwartz implies that Eiseley considers spiritual maturation to be a self-directed process.

Each person "has the right (and duty)" to reorient his consciousness and rejoin the evolutionary process; the goal is "to create his own symbolic relationship with the outside." Schwartz focuses on Eiseley's saying that he "projects" his consciousness into other lives, which Schwartz considers a major way Eiseley forms this relationship. Schwartz says that Eiseley also projects "revelation upon existence."

The third scholar to write an extensive study of Eiseley is L. Harvey Kassebaum, who in his dissertation discusses each essay in five works—The Immense Journey, The Unexpected Universe, The Invisible Pyramid, The Night Country, and The Star Thrower—and also refers to The Firmament of Time. Kassebaum classifies Eiseley as a nature writer who, like Thoreau, is a "humanist-naturalist," for Eiseley listens to "an inner voice" that leads him "to draw both science and experience together to be tempered by the most unscientific 'I feel'." Kassebaum especially comments upon Eiseley's similarity to American transcendentalists, for he finds that Eiseley views the world with compassion and with awe for its mysteries. Eiseley also feels a spiritual, or transcendental, affinity with the basic force of organization in nature. In addition, he shares to an extent the transcendentalists' belief in "the imperative of change, and in,
Kassebaum also discusses the structure, language, and themes in Eiseley's essays. He contends that Eiseley's "concealed" essays always have a serious point to them, no matter how anecdotal the narrative or whimsical the tone. He identifies Eiseley as a particularly "poetic" essayist, finding his images, similes and metaphors, "humane" tone, and "emotional intimacy with natural things" indicative of poetic sensibilities. Kassebaum especially traces Eiseley's concern about humankind's abuse of nature and concludes that Eiseley believes that such abuse threatens the survival of all life on earth. According to Kassebaum, Eiseley believes that extinction can be avoided only if humankind reestablishes "a life within the rhythmic, reproductive, nutritive organization of the natural world" and ceases acting upon nature as if separated from it.

Thus Carlisle, Schwartz, and Kassebaum have conducted important research on Eiseley. Within their studies, all three scholars, especially Schwartz, have initiated discussion on what I believe is fundamental in Eiseley's thought: transcendence. My thesis will further examine transcendence, the word used by Carlisle when pointing out that Eiseley exceeds norms in both science and art, by Schwartz when emphasizing that Eiseley reunites with nature in enlightening moments of projecting his consciousness, and by Kassebaum when proposing that Eiseley feels a spiritual affinity with nature.

That Eiseley himself uses the word transcendence in many ways suggests that he has in mind no one theme concerning it. However, I
find that he uses forms of the word in several major contexts that when
interrelated suggest an overall pattern of thoughts. For convenience,
this pattern can be called Eiseley's view of transcendence. He mentions
the word when discussing the "emergent, if not miraculous, novelty" in
the world. This novelty appears as events "transcending the known laws
of nature." In this context, the mind's remembering the past and
imagining the future are acts that surpass the natural limitations of
time (FT, p. 166). He also mentions transcendence when describing new
states of being that result from sudden, new events. For example, he
says that the human brain has transcended the "organic process" of
mutation and, to an extent, evolution, for the brain can convey "social
heredity" through communication. As a result, human existence is far
different from that of any other life form.

The word transcendence appears when Eiseley discusses the human
desire to reach or become something beyond oneself. He says that
"surely he [man] did not come [from the distant past] to see himself or
his wild visage only. He came because he is at heart a listener and a
searcher for some transcendent realm beyond himself." Eiseley is
vague about what this realm might be. He continually suggests, however,
that it involves humans becoming other than what they already are; for
example, he says that man cannot "save himself [from extinction] except
by transcending his own image" (IU, p. 66). Such development will occur
by our gaining new knowledge so that "we may grow beyond our past, our
follies, and ever closer to what the Dreamer in the dark intended before
the dust arose and walked" (IU, p. 66).
Eiseley also mentions transcendence when discussing the human desire for spiritual and ethical growth, which he feels can be gained by searching the inner self: "I had looked into his [a poor but dignified person's] eyes and seen there that transcendence of self is not to be sought in the outer world or in mechanical extensions."\(^{20}\) He says that humans yearn for "enlightenment of the spirit—some ability to have a perceptive rather than exploitative relationship with fellow creatures" (IP, p. 146). He suggests that even if humans ignore, repress, or misdirect this desire, it remains vital to their lives: "Man's urge toward transcendence manifests itself even in his outward inventions. However crudely conceived, his rockets, his cyborgs, are intended to leap some void, some recently discovered chasm before him, even as long ago he cunningly devised language to reach across the light year distances between individual minds" (IP, p. 125).

In addition, Eiseley mentions transcendence when contemplating both cultural and individual growth: "Man's whole history is one of transcendence and self-examination, which has led him to angelic heights of sacrifice as well as into the blackest regions of despair."\(^{21}\) He also remarks, "[I]t struck me that every ruined civilization is, in a sense, the mark of men trying to become human, trying to transcend themselves" (NC, p. 80).

I propose that Eiseley's overall view of transcendence is based on his knowledge of evolution, especially on his awareness of and fascination for the biological "habit of life forms reaching out into new environments."\(^{32}\) This habit results from an unexplainable innate
drive that compels life forms to change, the same drive that Eiseley says "forced the [first] cells to bring the sea ashore with them" (IJ, p. 43). Eiseley feels that humans also share this innate drive; however, humans are unique in that they are conscious of this drive and actually can desire and strive to reach out and change. To Eiseley, then, transcendence is the desire to be and the actual, if momentary, being other than what one already is. It involves wishing to become ever more human and moving beyond limitations, reaching toward goals, and especially listening and searching for new awarenesses. It also includes gaining holistic understanding of one's place in the universe.

Evolution and, in my sense of the term, transcendence are among Eiseley's major concerns in both his poetry and his prose. To Eiseley, evolution is an open-ended process, a journey without a known destination. He particularly expresses this view when comparing humankind's development to Odysseus' wanderings. He feels that humankind, like Odysseus, is "homeward-yearning"—wanting to be safe, stable, and content with itself. Eiseley goes on to point out, however, that in the works of many writers, Odysseus finally reaches home only to embark on new journeys, even spiritual ones. Thus the destination that Odysseus thought was the end of his wanderings is but the start of new ones, and Odysseus remains a man in progress—risking, exploring, seeking new experiences, and in the process changing as a human being. Eiseley believes that humankind, like Odysseus, has not reached a final destination, for humankind is still evolving: "Man is not man. He is elsewhere. There is within us only that dark, divine animal engaged in
a strange journey—that creature who, at midnight, knows its own
ghostliness and senses its far road" (NC, p. 54). No matter how
disturbing the thought, then, humankind must continue its evolutionary
journey and change in unforeseeable ways.

Eiseley also believes that like Odysseus humans suffer from the
universe and their own nature. Eiseley finds the universe an
indifferent and lonely place for humans since they are the only life
form conscious of its own existence; and because humans, possessing
self-awareness, create the "dream world" of culture, they find that
their existence is complex, alienated from nature, and existentially
frightening. Eiseley contends that each human also suffers from the
uniqueness of his own nature, since that uniqueness isolates him from
other human beings and also from the flow of life. Therefore, a human
must reconcile himself to the indifferent universe, his complex culture,
and his unique self.

Through his awareness of evolution and transcendence, Eiseley finds
a means to attempt such reconciliation. He believes that all life forms
share the biological drive compelling them to "reach out" and adapt to
new conditions, thereby developing beyond their present structures and
behaviors. Because he sees humans as a life form that evolved only
because their water-bound ancestors "reached out" onto land, into trees,
and over savannas, he can feel that humans are connected to rather than
isolated from the rest of life on earth. Furthermore, he is able to
view consciousness as part of—not separated from—nature since the
mind is the product of an organism that evolved beyond its once
unselfconscious self: "The mind . . . has a latent, lurking fertility, not unrelated to the universe from which it sprang" (NE, p. 204).

Eiseley is also able to consider his culture as but in a stage of development, a destructive tool-using stage; therefore, he can maintain that his culture should desire to evolve further so that it can feel more one with the universe. Most important, awareness of transcendence causes Eiseley to question his own nature, search for new capabilities within himself, and explore new ways of responding to the universe, for he feels he too must transcend himself—that is, evolve further and thereby become ever more human, more the man who "is elsewhere."

In the following section, I will discuss in greater detail Eiseley's view of transcendence. I will particularly relate that view to his belief that the universe has a fundamental aspect of indeterminism. Referring to his prose work and poetry, I will examine how his view influences his understanding of humankind's relationship to the "indifferent" universe and of western culture's current technological mind-set. I will also suggest that Eiseley believes that humans should move beyond this mind-set by desiring to transcend themselves and striving to evolve.

In the last section, I will discuss how Eiseley applies to his own life his view of transcendence. For three main reasons I will focus on The Unexpected Universe (which was not analyzed by Schwartz) and All the Strange Hours (which was not analyzed by Schwartz, Kassebaum, or Carlisle): the books represent different stages of Eiseley's life, since The Unexpected Universe was published approximately midway
through Eiseley's career and *All the Strange Hours* near the end; of Eiseley's books *The Unexpected Universe* most extensively presents his thoughts about indeterminism in nature; and both books reveal Eiseley exploring transcendence and investigating its importance to his own life. I will examine how Eiseley continually attempts to reach out into nature and himself and grow as a human being. I will also suggest that he remains intellectually and kinesthetically prepared to recognize unexpected transcendent moments and to seek their occurrence.
Notes

19. Schwartz, p. 35.
20. Schwartz, p. 32.

22 Kassebaum, p. 257.

23 Kassebaum, p. 262.

24 Kassebaum, p. 271.


26 Kassebaum, p. 264.

27 Loren Eiseley, The Firmament of Time (1960; rpt. New York: Atheneum, 1967), p. 171. All further citations of this work are identified parenthetically in the text and are designated by the abbreviation FT.

28 Loren Eiseley, The Invisible Pyramid (New York: Charles Scribner's Sons, 1970), p. 20. All further citations of this work are identified parenthetically in the text and are designated by the abbreviation IP.

29 Loren Eiseley, The Unexpected Universe (New York: Harvest/HBJ Book-Harcourt, 1969), p. 55. All further citations of this work are identified parenthetically in the text and are designated by the abbreviation UU.


31 Loren Eiseley, The Night Country (New York: Charles Scribner's Sons, 1971), pp. 49-50. All further citations of this work are identified parenthetically in the text and are designated by the abbreviation NC.

32 Loren Eiseley, The Immense Journey (1957; rpt. New York: Vintage Books, 1959), p. 37. All further citations of this work are identified parenthetically in the text and are designated by the abbreviation IJ.
Man, unlike the lower creatures locked safely within their particular endowed natures, possesses freedom. He can define and redefine his own humanity, his own conception of himself. In so doing, he may give wings to the spirit or reshape himself into something more genuinely bestial than any beast of prey obeying its own nature. . . . It is part of each person's individual evolutionary status that he possesses this power in unequal degrees.

—Loren Eiseley
The Unexpected Universe

Eiseley considers his view of the current stage of human evolution to be significantly at odds with that held by his culture. Central to the difference is his belief that humans can still evolve—and should still evolve—for the betterment of the human condition. He feels that western culture, in contrast, believes that human evolution has reached its epitome, a point signalled especially by the modern technological explosion. As a result, he thinks that his culture is basically satisfied with the human state of being; he, however, desires continued maturation in the human state itself.

Basic to Eiseley's view of evolution is indeterminism, a modern scientific principle that leads Eiseley to believe that humans will always be able to discover something new in the universe and in themselves. This principle holds that the universe contains a fundamental aspect of unexpectedness that makes seemingly well-ordered matter inherently unstable. Indeterminacy affects even the most basic particles of matter:
Even in the supposedly stable universe of matter, as it was viewed by nineteenth-century scientists, new problems constantly appear. The discovery by physicists of antimatter particles having electric charges opposite to those that compose our world and unable to exist in concert with known matter raises the question of whether, after all, our corner of the universe is representative of the entire potentialities that may exist elsewhere (UU, pp. 36-37).

The apparent forms in the universe result from particles of matter relating to each other more times than not in certain configurations; however, in spite of this overall regularity, particles sometimes behave in unexpected ways, thereby changing the forms that matter takes. This underlying, potential disorder is the indeterminacy that Eiseley considers "a procreative void" from which possibilities for change emerge. Therefore, he and other scientists assume that matter will follow basic physical laws; however, they also predict that unexpected events will occur, although they can never predict when and how.

Eiseley never forgets that potential for change is always present: "This other hidden world, a world of possible but nonexistent futures, is a constant accompaniment, a real but wholly latent twin, of the nature in which we have our being" (NC, p. 218). He considers unexpected microcosmic events able to disrupt and therefore to cause altered or even new macrocosmic events and forms. As a result, he views the physical world as being only temporarily stable, for alternatives to the present world may at any time appear. Thus he believes that chance is an integral and generative element of the universe, an element beyond human control and one that humans should never ignore:
From the oscillating universe, beating like a gigantic heart, to the puzzling existence of anti-matter, order, in a human sense, is at least partially an illusion. Ours, in reality, is the order of a time, and of an insignificant fraction of the cosmos, seen by the limited senses of a finite creature. Behind the appearances, as even one group of primitive philosophers, the Hopi, have grasped, lurks being unmanifest, whose range and number exceeds the real. This is why the unexpected will always confront us . . . (UU, p. 46).

Eiseley believes that the indeterminism inherent in physical matter is also an essential part of living forms, for unexpected traits and structures appear in life forms through genetic intermixtures and mutations. Therefore as with basic matter in the universe, life forms will never be static; at one time or another, alternatives to themselves will arise. However, he contends that life forms are significantly different from the rest of physical matter because besides having unexpected changes happen to them, life forms extend into the environment to become other than what they already are: "It was the reaching out that changed this pattern . . . . It was the reaching out, that magnificent and age-long groping that only life—blindly and persistently among stones and the indifference of the entire inanimate universe—can continue to endure and prolong" (IJ, p. 43). Every life form, then, has an innate drive compelling it to evolve beyond its present self through continual adapting to new conditions. Thus evolution is an ongoing and open-ended process.

However, Eiseley sees a dynamic tension existing between the individual life form's struggle to preserve itself in its original
environment and nature's biological drive causing that same life form to reach out, adapt to new conditions, and change:

Form, once arisen, clings to its identity. Each species and each individual holds tenaciously to its present nature. Each strives to contain the creative and abolishing maelstrom that pours unseen through the generations. The past vanishes; the present moment persists; the future is potential only. In this specious present of the real, life struggles to maintain every manifestation, every individuality, that exists. In the end, life always fails, but the amorphous hurrying stream is held and diverted into new organic vessels in which form persists, though the form may not be that of yesterday (WW, pp. 78-79).

Thus evolution also happens to life forms in spite of their being part of the process restricting change. Eiseley calls this process a "living web," consisting of life forms existing within the biosphere, or the biological status quo "in which past life is intertwined with all that lives and in which the living constitute a subtle, though not totally inescapable, barrier to any newly emergent creature that might attempt to break out of the enveloping strands of the existing world" (WW, p. 154). Eiseley believes that alternative life forms will always manage to slip through strands of the web, for the "reaching out" process is finally the more potent force: "Evolution is far more a part of the unrolling future than it is of the past, for the past, being past, is determined and done" (WE, p. 71).

To Eiseley, humankind is but one more expression of life's achieving a new form; however, because humankind unexpectedly evolved self-consciousness, humans are a unique life form, for humans participate
not only in the physical world but in a mental one as well. This mental world gives humans the power of discrimination, which makes their existence more complex than mere instinctive survival: "No longer, as with the animal, can the world be accepted as given. It has to be perceived and consciously thought about, abstracted, and considered. The moment one does so, one is outside of the natural; objects are each one surrounded with an aura radiating meaning to man alone" (UW, p. 32). Able to share such meanings through language, humans create culture, which serves as a buffer between them and environmental forces that influence physical evolution. By adapting artifacts and social patterns to environmental changes, humans avoid the physical specialization that characterizes all other life forms, making human evolution primarily one of intelligence and culture.

In Eiseley's view, awareness of such evolutionary uniqueness makes humans feel isolated from other life forms. Humans also feel alienated from the universe as a whole because in spite of intense study they find that the universe is not only difficult to understand but also indifferent to their comprehension: "Nature contains that which does not concern us, and has no intentions of taking us into its confidence" (UW, p. 45). In addition, humans feel vulnerable, for they alone have no "natural" protection against the elements or, more significantly, against time:
Under the wind's cold roof what shelter have we—
What tattered garment can the flesh put on?
Walk in the wolf's coat, you would be more happy;
Stare with a wolf's eyes, you would greet the sun
Only as warmth from rain. In the hollow bracken
Stretching your toes and fiercely at peace,
The minutes would run and your wild thought be unshaken,
By the side of death you would doze and take your ease.
We, in the fury of thought, drink bitter water,
The crystal springs of the mind are like acid pools—
Under the wind's cold roof we are lost and homeless,
And the flesh is flesh—we have cast that garment of fools.

Thus Eiseley takes a paradoxical view of humankind's relationship to
nature, for he sees humankind as a life form that has evolved within
nature yet that has also evolved beyond it.

Eiseley believes that humans, feeling isolated and confused, still
look primarily to their culture rather than to nature for survival and
a sense of community. He feels that western culture in particular has
developed a "man-centered" world view that consistently considers
humans to be separated entirely from nature. He also thinks that his
culture believes that the physical world is stable and permanent and
that evolution, especially humankind's own evolution, is at an end. He
thus sees his fellow humans, like other life forms, struggling to
perpetuate their present selves, thereby reinforcing the "living web."
However, he feels that no matter how strongly humans deny and
discourage change in themselves or other life forms, unexpected events
will alter existence as humans now know it. Schwartz says that it "is
what man has already missed, and Eiseley's desire to explain how not to
miss the continual process of ever-emerging life, that is of paramount
Although Eiseley thinks that humans in western culture currently repress their innate drive to develop further, he recognizes that talented humans of the past have shown the desire and ability to explore and change. Therefore, he believes that humans must revive this process of discovery: "When we fail to wish any longer to be otherwise than what we are, we will have ceased to evolve. Evolution has to be lived forward."

Eiseley believes that humans in western culture resist further evolution particularly because they accept their culture's emphasis on technology. This emphasis originated when humankind's ancestors began applying their tool-using skills in any way possible to survive, regardless of the consequences to the environment. Intrigued by but also dependent upon mechanical devices, western culture continually advanced its tool-using abilities, resulting in the technology of today.

Although Eiseley acknowledges the practical benefits to health and comfort that technology has created, he accuses technology of being both a major result of today's self-centered world view and a propagator of it. As mentioned earlier, the technological world view—shared in part by Eiseley—believes that humans are outside of nature; however, this view also holds that such separateness frees humans to exploit nature as raw material for technology, a contention not shared by Eiseley: "It is his [modern man's] technology and its vocabulary that makes his primary world. If, like the primitive, he has a sacred center, it is here. Whatever is potential must be unrolled, brought
into being at any cost. No other course is conceived as possible. The economic system demands it" (IP, p. 59).

Eiseley fears that science has become oriented toward technological innovation and is too often used to fulfill humans' lingering desire to manipulate nature "at any cost." He believes that his culture's sophisticated tampering with nature, although promising to create a better world filled with man-made conveniences, actually threatens the security of humankind's future, for science may be out of control, causing in the wake of technological growth profound damage to the earth through pollution, decimation of resources, and the extinction of life forms. Calling humankind a "slime mold" and a "world eater," he warns that its technological destructiveness threatens the basic system of nature as now known because such environmental changes may destroy forever the nature that humans depend upon for physical survival:

Now man is master here with leaping death, grenades, flame-throwers, the power of solar-flares, the force to hurl missiles against the moon. Now man is master here, a dinosaur, Gorgon, perhaps, incarnate once again. Note the shrunk arms, bipedal gait, contrived bulldozer jaws, but delicately manipulating still with small dry hands his final test-tube death.  

Eiseley also contends that because humans in western culture are impressed too easily with the superficial benefits of science, their pride has swelled out of proportion, causing them to reject their
earlier beliefs that saw mysterious connections between life forms and instead to accept the man-centered perspective of today. He feels that with this de-emphasis on subjective communication between self and nature and with the corresponding emphasis on scientific rationalization, western culture has come to define progress solely as technological expansion. Thus not only all economic but also all social segments of the culture are expected to fulfill materialistic goals, resulting in widespread social trauma (FT, p. 121). He especially feels that the emphasis on technology forces individuals to follow prevailing group standards rather than explore and develop personal ones (FT, p. 137). Therefore, uncontrolled technological growth endangers civilization itself, for material progress wrought at the earth's expense has not brought about compensating spiritual progress. In contrast, the technology in cultures that still feel part of nature can reinforce humans' spiritual well-being and their sense of place in the universe. Biseley describes a band of Indians reading messages on burnt bones:

It is true that instructions for getting one's food, for hunting, might seem the sole issue here and the shaman's reading extrapolated becomes mathematics and systems analysis in the modern state.

But no, I think not and I envy the dark-faced man by the fire. His magic is not small, he is reading something permanently bound into his universe that he can decipher, a code that can be read by the informed seer, a voice from the universe reassuring for man, hungry, enfeebled, but knowing
there is a message to be read and one can find it any time in the fire.  
The world is held together  
and man has his place:  
that is the message; the food comes after and is acceptable.  
("Pioneer 10, supra", IA, p. 21)

To Eiseley, then, humans in western culture are at a crisis point in their evolution, for instead of struggling to survive nature’s elements, humans are now struggling to survive the dangers they create for themselves. He urges his fellow humans to move beyond this crisis point by embarking once again on the quest for transcendence:

It is no longer enough to see as a man sees—even to the ends of the universe. It is not enough to hold nuclear energy in one’s hand like a spear, as a man would hold it, or to see the lightning, or times past, or time to come, as a man would see it. If we continue to do this, the great brain—the human brain—will be only a new version of the old trap, and nature is full of traps for the beast that cannot learn (UU, pp. 54–55).

Fundamental is his belief that humans must seek a new cultural definition of "humankind." To "no longer see as a man sees" implies that humans must "be" different than what they are, which rests on their defining themselves as more than exceptionally intelligent and dexterous tool users. Humans must reconsider not only how they presently use their minds, bodies, and senses but also how they can use them to experience the universe and behave in it. To Eiseley, humans have but begun to explore potentials other than tool-using ones; therefore, humans are still on their way to understanding what "human"
means or what "humane" values, machines, and institutions can become.

Thus Eiseley feels that humans in his culture can continue evolving only if they do not adopt the technological viewpoint that considers superlative tool-using skill the sign of evolutionary culmination. He feels that humans should adopt instead a viewpoint that also considers the achievement of "meaning," and not just materialism, to be the goal in life. Ultimately, humans should seek the meaning of their own nature—who they were, are, and can be. Especially important is the seeking for what they can be: "There is . . . [an] aspect of man's mental life which demands the utmost attention, even though it is manifest in different degrees in different times and places among different individuals; this is the desire for transcendence—a peculiarly human trait" (IP, p. 145).

Eiseley sees humans seeking and achieving transcendence through their "mental life"—their most unique and unexpected evolutionary trait. He finds the mind to be a "sort of organ of indetermination" which offers humans not only a new world of thought, dreams, and imagination but also a world other than the physical one where humans experience the unexpected. Eiseley says that "the rare freedom of the particle to do what most particles never do is duplicated in the solitary universe of the human mind" (NE, p. 136). Some individuals may experience sudden, unexpected thoughts; others may form unique, unexpected ways of viewing the world.

Eiseley believes that humans can evolve beyond themselves primarily by listening to and searching within themselves rather than
seeking new technological conquests over the environment (FT, p. 179). Because he considers the mind to be humankind's essential and enduring characteristic, it becomes for him the predominant means by which humans can transcend. In Schwartz's words, "For Eiseley, the mind's journey into unknown realms of thought and feeling is the 'supreme epitome of reaching out'".  

Of the mind's many capabilities, Eiseley finds most significant its power of imagination, for the imagination determines humans' expectations of themselves and the future, creating a process of self-fulfilling prophecy: humans imagine a certain future and then behave in order to bring it about—often completely unconscious of the process. Eiseley believes that humans can become conscious of participating in this self-fulfilling prophecy, even to the point of influencing their evolution. Humans can direct their development by imagining a variety of futures, choosing among them, and then working to bring that choice into being. Such control over evolution brings with it great responsibility, for humans can imagine destructive as well as socially compassionate futures. If not constantly vigilant about how their visions influence their behavior, humans may find that their stray "bestial" thoughts are leading them to a future existence worse than their present one: "We are more dangerous than we seem and more potent in our ability to materialize the unexpected that is drawn from our minds" (UU, p. 46). Thus since the mind is humankind's most powerful and definitive characteristic, humans must seek both to free its potentials and to direct its power for the good, not harm, of
life on earth.

Although Eiseley believes that "inner" transcendence can lead in innumerable directions, he never loses sight of humans' inability to transcend their connection to nature. He believes that they will never escape their physical dependence and should never forget their spiritual dependence on nature. As mentioned earlier, human physical evolution will always be influenced by chance in the form of genetic combinations and mutations. Therefore, although humans are unique in nature for being able to influence their evolution, they are nonetheless still in nature. Although humans fulfill through mental reaching out the biological habit of groping toward new conditions, humans need to maintain their spiritual connection to nature as inspiration and as a reminder that they are evolving along with nature. Possessing such a spiritual connection, humans will reach toward a future in which they live harmoniously, not destructively, with nature. Kassebaum calls the biological drive toward change "life force," and contends that Eiseley believes if "we do not isolate ourselves from that force, and the roots and source of that force, we may not only survive but triumph." Eiseley particularly believes that the imagination allows humans to connect again to this force, which in a poem he calls "that vast thing sleeping" in nature and the self:

Yes, I try to penetrate the future. Only man thinks of it, if he does, but so does also that vast thing sleeping in the swamps of time. I am his child, think that my thoughts must run in similar directions; lately we have conceived
pity and hope. Take this as a sign infused into our yearning flesh by that old sleeper deep in the Carboniferous, now awake and tired of what he dreamed before. We are his shape and non-shape. He dreams in us and reaches; heavily we sigh. If we must dream for him, mark that we should dream well. ("That Vast Thing Sleeping," IA, p. 66)

Eiseley feels that humans will remain spiritually connected to nature because they also possess both a faint memory of their unselfconscious animal past and the power to imagine their animal as well as pre-animal past (UU, p. 165). He feels that the ability to imagine the past, remember it, and even for a moment relive it enables humans to perceive ways to live in the universe other than the current technological way. He says, "Tomorrow lurks in us, the latency to be all that was not achieved before" (ST, p. 220). Humans, then, remain spiritually dependent upon nature as a source for discovering alternative ways of "being."

Eiseley does not suggest that humans return to their brute animal state or to a subsistence-level existence; rather he suggests that through their imagination humans reestablish contact with nature in the present and with the perceptions, feelings, and behaviors they had when they were an unselfconscous, harmonious part of nature in the past. Such contact increases humans' choices about how they may want to and may even need to live in the future. Thus humans ideally will interweave their remembrance of the past, their sensitized experiences of nature in the present, and their "enlightened" expectations about the future in order to extend their conceptions of self beyond those perpetuated
by the technological world view. This process is foreshadowed in Eiseley’s poem "Dreamed in a Dark Millennium":

Dreamed in a dark millennium I did not live
in human time, but rather was a crawling landscape of eons,
boulders gouged out, great canyons scarred my face,
mesas of thought were heaped on me by winds,
and all that time amidst light, darkness, desert rains,
I lived and dreamed some planetary dream,
myself, old earth-father, had devised, indifferent to life
stiff-jointed mostly, in the gully fans and washes.

Who’s to care what troubles a continental face?
Ice, saber teeth, or mammoth tusks, they melt or drop
and are forgotten while the face lives on, primordial
cross hatched, seamed in distorted strata, but somehow young
and smiling still

about some work, some dream. Great God
who’d wish in a single night to penetrate
the mighty caverns of the intellect and find
such ruin prized there, but such building too,
stone laid on stone to heave a mountain up and then to place
some yellow-eyed and cloudy-coated leopard
high on the cliffs to rule amidst the blizzards.

Beauty then
out of the stones and slashes, and, just at the edge
of morning, light.

Stretched in my bed, my giant continental bed, I sighed,
having glimpsed man, some way within myself, and wept,
wept for what it was he strove, for what he lost,
could not attain, wept
in the cold morning, joyed again to live, in the half light
before the daylight came.

Eiseley believes that artists possess an innate sensitivity toward indeterminism in nature and toward the ability of the imagination to give rise to unexpected insights. He feels that artists are in touch with the biological process of change: "The artist’s endeavor is to make it [the potential] happen—the unlawful, the oncoming world, whether endurable or mad, but shaped, shaped always by the harsh angels
of truth, the truth as glimpsed through the terrible crystal of genius" (ST, p. 250). Through their insights, artists contribute as much as scientists to human knowledge, for artists have a "preternatural sensitivity to the backward and forward reaches of time. They probe into life as far as, if not farther than, the molecular biologist does, because they touch life itself and not its particulate structure" (IP, p. 125). To Eiseley, Henry Thoreau was such an artist, one who tried to form a new vision and definition of humankind; he says that Thoreau "knew only that by approaching nature he would be consulting, in every autumn-leaf fall, not alone those who had gone before him, but those who would come after" (UU, p. 138).

Eiseley's view that artists and scientists contribute equally to knowledge blurs the distinctions between art and science. Because he holds such views as this, it has been suggested that he offers "nothing less than a corrective statement on the modern view of the universe and the human priorities set within it." Eiseley especially challenges western culture's view of what knowledge is and how it is used. He finds too limiting the modern trend of analyzing and explaining the universe through reductionism, a trend supported especially by science: "... I find something that is not accounted for very clearly in the dissections to the ultimate virus or crystal or protein particle. Even if the secret is contained in these things, in other words, I do not think it will yield to the kind of analysis our science is capable of making" (UU, p. 202).

He finds this same reductionism inherent in scientific studies of
evolution which consider only human similarities to the crueler side of animals, thereby ascribing to human behavior set explanations as well as predictions. He especially thinks that reductionists emphasize the less important factors in human evolution—the exterior, environmental forces. He, on the other hand, considers humans' inner, "finer" qualities such as altruism and cooperativeness to be the major selective forces that gave rise to social interaction and therefore human survival (UU, p. 185). He thinks that these qualities still influence human evolution and deserve great attention, for they prove that humankind is innately not just a "world eater" but also a "potential love animal" concerned for the welfare of all life forms.

Eiseley finds it paradoxical and frustrating that although modern scientists accept indeterminism as part of the universe, they generally reject implications that it is part of human nature as well. These scientists are unwilling to admit that the human future is open to continual change and that humankind, therefore, will never have all the answers about its own nature.

Also frustrating to Eiseley is science's general refusal to admit that there is mystery in the universe, that much remains and will continue to remain unexplained, and that the universe is a realm not just to be analyzed but also to be marveled at. Concerned that many scientists are of such an overly rational bent, he points out that a second but rarer type of scientist also exists—"the educated man who still has a controlled sense of wonder before the universal mystery" (ST, p. 190). He considers Francis Bacon an example of this second
type of scientist, for Bacon was interested less in determining isolated, experimental facts and more in forming a "vision of what science in its totality meant for man."¹⁰ Eiseley particularly admires Bacon's use not only of the experimental method to understand the world but also of contemplative thought expressed through writing. He feels that Bacon's philosophical insights were themselves scientific discoveries, for those insights led to new ways of thinking about nature that expanded knowledge as significantly as did newly discovered facts and objects (MWS, pp. 62-63). By not solely conducting empirical studies and writing narrowly-focused reports, Bacon was able to discuss and explore the larger picture of science and society, thereby furthering holistic rather than just reductive knowledge. To Eiseley, the quest for holistic knowledge allows scientists to feel awe for the universe, and he feels that such knowledge and awe lead humans to consider themselves and all parts of nature interrelated. Once such a view of nature is held, humans will use knowledge not just to satisfy their age-old desire to manipulate nature but to fulfill their finer desire to live harmoniously within it. They will then direct their science as Bacon advocated—"for the uses of life."

Thus Eiseley believes that humans must shake off the self-complacency that the technological viewpoint has lulled them into and instead rediscover life's "eternal dissatisfaction with what is." By questioning their cultural assumptions and exploring new ones through imagination and contact with nature, humans acknowledge their innate drive to reach out and thereby rejoin spiritually the community of
biological nature. Eiseley feels that humans should at least try to influence their evolution; otherwise, cultural inertia directs the future for them: "In spite of our boasted [scientific] vigor we wait for the next age to be brought to us by Madison Avenue and General Motors. We do not prepare to go there by means of the good inner life. We wait . . . " (FT, p. 144).

Eiseley urges anything but waiting. He wants humans to form new values, ones he hopes will include the "cultivation" of "noble minds," "toleration," "escape from irrational custom," "wisdom interfused with compassion," "charity," and "the obscure sense of the holy." He especially hopes that humans will achieve love for all life forms and even love for the frightening, indifferent universe. When such love finally happens, humans will have overcome their age-old concern for external manipulation of the world and have begun inner, compassionate connection with nature—which Eiseley feels is the ultimate goal of transcendence.

Eiseley holds hope of such transcendence not only for humankind and western culture but also for himself individually. He tries to reconcile himself not only to the indifference of the universe and to his culture's technological mind-set but also to his own nature. W. H. Auden says that if he has understood Eiseley correctly, "the first point he wishes to make is that in order to be a scientist, an artist, or a doctor, a lawyer, or what-have-you, one has first to be a human being."11 Eiseley ultimately wants to discover the type of human being he is, and his belief in ongoing evolution leads him to such self-
analysis. Carlisle says that the theory of evolution is Eiseley's "instrument or paradigm. And through it he makes discoveries, he writes about them, and he writes with love." Because Eiseley believes that humankind innately wishes to transcend itself and be more one with the world, he feels that he as an individual must meet that challenge too.

Eiseley, then, desires to further his own evolution, realizing that he must struggle against the limits defined by his natural senses, the preconceptions imposed on him by his culture, and the idiosyncrasies inherent in his own character. He understands that the idiosyncrasies in particular determine that each person will reach out in different ways and to different degrees, a point discusses by Thoreau, who Eiseley says indicated "that the individual in all his reading, his traveling, his observations, would follow only his own footprints through the snows of this world. He 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" (IP, p. 103). This is the fate that Eiseley wants to avoid by trying to reach beyond his personal and human limitations:

I find
something as unseen and precious
though finite
locked in my mind
but outside,
do you understand,
outside this inside of nature
we are forced to inhabit. But the getting through
is individual.
("Five Men from the Great Sciences," IA, p. 72)
Knowledge of evolution ultimately becomes for Eiseley a framework for living in the universe and in his culture. Such knowledge gives an underlying meaning to his life by providing at least a basic explanation for human existence within the universe, the temperament of his particular culture, and the potential nature of humankind. This knowledge also gives direction to his life by sanctioning his dissatisfaction with his culture and by indicating finer qualities which his fellow humans can seek to enhance in themselves. Most important, the knowledge of evolution gives meaning and direction to his feeling of dissatisfaction with himself. The scientific principle of indeterminism establishes that changes in himself can occur; the biological trait of reaching out assures him that his wanting to change is "natural" and can lead to successful alterations; and the human phenomenon of transcendence—of extending one's conceptions of self and nature—provides him with a goal toward which his personal reaching out can lead.

Eiseley, then, is one man risking, exploring, and seeking transcendence. Believing that humankind's primary freedom is to "define and redefine" itself, he wishes to reach toward a new definition and vision of himself. Also believing that humans possess in unequal degrees the power to transcend, he wishes to "give wings" to his imagination and discover his own potentialities. He feels that once such evolutionary reaching out is reborn in western culture in individuals such as himself, the process will spread. "After us," he says, "there will be others" (UU, p. 89). The Unexpected Universe and
All the Strange Hours reveal his investigating and cultivating transcendence of self.
Notes


2 Schwartz, p. 27.


4 Loren Eiseley, "Why Did They Go?", The Innocent Assassins (New York: Charles Scribner's Sons, 1973), p. 17. All further citations of this work are identified parenthetically in the text and are designated by the abbreviation IA.

5 Schwartz, p. 22.

6 Loren Eiseley, The Star Thrower (New York: Times Books, 1978), p. 230. All further citations of this work are identified parenthetically in the text and are designated by the abbreviation ST.

7 Kassebaum, p. 124.


10 Loren Eiseley, The Man Who Saw Through Time (New York: Charles Scribner's Sons, 1973), p. 62. All further citations of this work are identified parenthetically in the text and are designated by the abbreviation MWS.


Where had I read about an old circus lion in Britain who had escaped from his cage? They had found him on the moors bedded down with some sheep he had not harmed. It was the Christmas feel of kind, I thought, for the variegated life of the world across the boundaries of form, the thing so lost to most of us, save for the confident talking cat and the lion and the wistful thinking of poets:

for I
love forms beyond my own
and regret the borders between us.

—Loren Eiseley
*All the Strange Hours*

Eiseley tried to further his own evolution by continually reaching toward greater understanding of himself and the universe, an ever-developing process based on his gaining and then interrelating singular new awarenesses. Reflecting on this process, he says, "My whole life had been unconsciously a search, and the search had not been restricted to the bones and stones of my visible profession" (*UU*, p. 197). His search was also for continued growth as an individual and for new ways of living as a human in the universe. Desiring such change, he lived in a state of readiness, actively seeking and receptively experiencing transcendence of self, which occurred in two interdependent ways: through deliberate, sustained effort that led to personal and professional evolution, and through unexpected, sustaining experiences—or "miracles" as Eiseley calls them—that contributed to that growth.
Eiseley's sustained effort to develop his capabilities was immediately reflected in his well-noted ability to avoid labels. Because he wrote not only scientific articles but also personal essays, poetry, and books for lay audiences, scholars have been unable to classify him simply as an anthropologist, literary artist, philosopher, or popular science writer. This transcending of professional roles and labels was a key means by which Eiseley, over time, achieved new definitions of himself and thereby continued to evolve. Fearing personal and professional stasis and believing that he could develop further, he challenged himself to expand into a variety of disciplines and to adapt to new intellectual conditions. However, he never adapted entirely to any one discipline or allowed himself to gain a narrowly-fixed professional reputation. By continually moving among disciplines, yet maintaining practices and viewpoints of each, he blurred their borders. As a result, his writings are a complex blend of scientific fact and theory, personal experience, and literary imagery and symbolism.

The Unexpected Universe reflects this blurring of professional borders. It is the third prose book based on the structure Eiseley identifies as the concealed essay, "in which personal anecdote was allowed gently to bring under observation thoughts of a more purely scientific nature." Eiseley had experimented earlier with prose writing, but his effort "had been largely submerged by departmental discipline" (ASH, p. 178). Therefore when he wrote his first book, The Immense Journey, he reached beyond the limits of "the straitly
defined scientific article" and attempted a more individualistic endeavor (ASH, p. 177). *The Firmament of Time* and *The Unexpected Universe* followed, earning for him such loosely defined labels as "literary stylist" and "imaginative naturalist." Later prose books with this "concealed" essay structure are *The Invisible Pyramid* and *The Night Country*.

*The Unexpected Universe* is a collection of such "concealed" essays addressing scientific topics through the medium of autobiography. These topics are discussed indirectly, a process established in *The Immense Journey*: "A personal anecdote introduced it [each essay], personal material lay scattered through it, personal philosophy concluded it, and yet I had done no harm to the scientific data" (ASH, p. 178). For example, in the closing chapter of *The Unexpected Universe*, Eiseley narrates his meeting a woman with Neanderthal-like features and uses that encounter as the basis for discussing scientific subjects raised throughout the book, subjects such as unexpected occurrences in nature, the biological urge to change, and humankind's intellectual progress from the ice age to the modern age.

*All the Strange Hours* is also consistent with Eiseley's blurring of disciplinary borders, for Eiseley expanded the range of his professional endeavors by writing an autobiography. However, science still is inherent in this work, for subjects such as indeterminism and humankind's age-old characteristics remain part of his discussions; indeed, Edward Blyth's contribution to evolutionary theory even informs an entire chapter of the book. The chapters continue to follow an
essay format, but with Eiseley's own life rather than scientific data as the central focus. Although these similarities remain, Eiseley assumed a new professional role with the autobiography, for in declaring his life as his major subject, he ranged farther than ever from standard anthropological practice.

Eiseley's professional evolution, then, was reflected in his transition from writing scientific articles, to *The Unexpected Universe*, to the autobiography. His moving to new professional "environments" expressed his personal desire to seek new challenges, master new skills, and gain new awarenesses.

Eiseley's reasons for avoiding a set professional role or label reflected the complex, interwoven influences of his childhood, his study of anthropology and geology, and his reading of literature. His childhood especially influenced his need to avoid being identified with mainstream professional disciplines. Instead of remaining with one discipline and sharing comfortably the benefits of such close association, he joined a profession briefly and then moved beyond it alone, a process he began as a youth and maintained through adulthood: "Across my brain were [childhood] scars which had left me walking under the street lamps of unnumbered nights" (*ASH*, p. 223).

These scars resulted from a painful childhood in which he was torn between loving his sensitive father and loathing his deaf, emotionally disturbed mother. Poverty, shame for his mother, and parental arguments left him lonely and without an emotional sense of place in his family or society. Therefore, even when young he felt he had to seek
to "be" elsewhere than where he was: "I was already old enough to
know one should flee from the universe but I did not know where to run"
(ASH, p. 26). Later, as an undergraduate, Eiseley for a long time
found no one discipline or intellectual home, partially because he was
still a loner and an outsider to the normal academic groupings: "I
found in those eight years [of college] that my appetite for wide areas
of learning was insatiable, but there was no one to guide me. There
was no one to say, 'Be a doctor, be a lawyer, be a teacher, a historian,
a writer.' Perhaps I was none of those" (ASH, p. 75).

Nevertheless, as a young man Eiseley did have a strong self-image—
that of a changeling and a genius. This image was instilled in him by
words written by his father on a piece of paper that Eiseley saw
burning: "Remember, the boy is a genius, but moody" (ASH, p. 14).
These words became his guiding influence, for he tried to live up to
them. Although skeptical of being a genius, he readily admitted to
being different from other people: "[T]he words were profoundly
comforting. My father had recognized me after all. . . . He had
known, however overstated, that I was a changeling, an oddity in the
cradle of a belated second marriage" (ASH, p. 14). Eiseley never
forgot his father's description, transforming it into a prophecy, even
a vow to himself which he tried to fulfill during his college years:
"I merely wanted to be left alone, but still I felt this persistent urge
toward books and toward those words of my father which I had seen
crumbling in the flames, never really to be effaced. I took them as my
only heritage. I tried to make whatever dream father had had of me
Eiseley's decision finally to major in anthropology is understandable when viewed in relation to his self-image as a changeling, for anthropology is itself a discipline with indistinct borders and a wide-ranging definition. According to anthropologist Eric R. Wolf, anthropology is less subject matter than a bond between subject matters. It is in part history, part literature; in part natural science, part social science; it strives to study men both from within and from without; it represents both a manner of looking at man and a vision of man—"the most scientific of the humanities, the most humanist of the sciences." In an age of increased specialization, it strives to be above specialties, to connect and to articulate them.  

In spite of anthropology's broad concerns, however, Eiseley distrusted following even its professional expectations, fearing that accepting disciplinary conventions could ruin his individuality and independence. Instead he maintained his image as a changeling by also studying geology and especially by writing about and furthering his own "manner of looking at man." As a result of this "manner," he practiced anthropology according to his own vision—by writing not only about scientific facts but also about awe for the universe, mystery in nature, and personal experiences. He therefore moved beyond writing only the scientific studies expected of his discipline and remained apart from mainstream anthropologists: "I was fond of my great sprawling subject, but I had learned not to love anything official too fondly, even high
office. One had to stand aloof. Otherwise one was easily destroyed" (ASH, p. 178).

Some colleagues, however, disliked Eiseley's exploring beyond the usual limits of anthropology and scientific inquiry. They were alarmed at his questioning of scientific certitude and admitting personal limitations: "I guess I'm not a very good scientist; I'm not sufficiently proud, nor confident of my powers, nor of any human powers" (ASH, p. 90). Thus some colleagues viewed him as he viewed himself—as a stranger among scholars. Eiseley acknowledged that he spoke "not as a wise man, with scientific certitude, but from a place outside, in the role, shall we say, of a city-dump philosopher" (UU, pp. 28-29).

Eiseley risked such professional criticism partly because he wanted to see if he could actualize his potential genius. Even attaining the high position of provost of the University of Pennsylvania did not satisfy his continual need for new endeavors. Instead, he contemplated turning to full-time writing, which appealed to him because writing was a less defined and more flexible profession than administration. After hesitating to resign as provost, he recalled his father's words. Soon thereafter he accepted the Benjamin Franklin Professorship at the university, an interdisciplinary chair that gave him the opportunity both to be a changeling and to test his genius: the professorship provided the facilities and support for intensive research and freedom from departmental expectations, allowing him to reflect broadly about the universe, human nature, and his own life. His risking such new
professional endeavors, then, reflected his intense striving to be what Thoreau and Bacon—two geniuses he admired—exemplified for him: a person with the courage to live according to his own values and with the sensitivity to perceive and then express awarenesses beyond those of most other human beings.

In addition to his childhood and his study of anthropology, Eiseley's wide reading of literature also influenced his desire to avoid any one professional label. As mentioned earlier, he believed that literature contributes as much to knowledge as science. Thus he used poetry and personal essays to explore subjects that are inherently unmeasurable and that, therefore, are rarely discussed in scientific journals—subjects such as transcendence, love for the universe, spiritual affinity with other life forms, and mysteries in nature. He believed that such topics, including his own life experiences, were worthy of serious consideration and found literature a means of investigating and sharing them with new audiences.

Most important, Eiseley believed that no one endeavor can ever lead to complete understanding of human nature or the universe: "DeQuincey . . . did not find the ultimate secret in his night wanderings, or if he did was silent; Coleridge not in opium nor in the spilled sheets and books upon the floor; nor Sir Thomas Browne in burial urns; nor I in science. We round back, we return" (ASH, p. 195). By saying that "we return," Eiseley implies that no matter what one's profession, it is tied to the intellectual mind-set of its era and can carry a person only so far toward the new discoveries Eiseley sought.
Ultimately, one always circles back to the self who practices the profession. For Eiseley, the self was the most immediate reality, for one must always contend with one's own idiosyncrasies, background, expectations, and perceptions. By saying that he did not find the ultimate secret in science, he implies that he had to focus also on himself. This focus, once incorporated into his writing, was never abandoned. However, it did change over time, reflecting his desire continually to evolve. For example, his focus in The Unexpected Universe is primarily on the self in relation to the universe: "It was as though I, as man, was being asked to confront, in all its overbearing weight, the universe itself" (UU, p. 86). In All the Strange Hours, he turns more toward contemplating his own self and personal universe: "Who knows, sometimes in age, what one really is or if someone else—or alternately others—gazes from the eyes that we imagine are our own? Even psychologists admit to the reality of multiple personality" (ASH, p. 258).

Thus Eiseley's transition from reflecting on the outer world to concentrating more intensely on his inner world was consistent with his wanting to transcend his former ways of "being" and to avoid fixed self-definitions. Although many scholars label All the Strange Hours Eiseley's most literary work (in addition to his poetry), several find it an autobiography that does not meet the genre's usual expectations; for Eiseley unexpectedly offers a complex metaphorical and discontinuous description of his life while revealing little about such usual subjects as awards, colleagues, and even his wife. Once
again, therefore, Eiseley transcended disciplinary norms, manifesting instead his own vision of a professional endeavor. He remained the changeling and resisted any other roles and labels, saying, "I am every man and no man, and will be so to the end. This is why I must tell the story as I may" (ASH, p. 23).

Eiseley viewed his writing as he did Bacon's and Thoreau's—as a sustained means, like experiments, of discovering and discussing knowledge and of encouraging others to seek new awarenesses. Over time, he hoped his writing will loosen the conservative mind-set of academic and industrial science, for he thought that such science strengthens the technological world view held by his culture. He wished to relax academic conservatism by challenging the accepted history of evolutionary theory, which he believed does not stress enough the influence of humankind's finer qualities. By exposing Darwin's intellectual debt to Blyth in formulating the principle of natural selection, Eiseley hoped to instigate new discussions of evolutionary theory and new interpretations of human nature. He realized, however, that such effort earned him even more criticism from colleagues: "And I . . . have been here and there excoriated by men who are willing to pursue evolutionary changes in solitary molar teeth but never the evolution of ideas" (ASH, p. 195). He also wished to direct attention once again to the mystery in the universe and to humankind's spiritual as well as physical dependence on nature. He hoped that industrial science will no longer be obsessed with destructive technological innovation.
Besides opening the mind-set of science in particular, Eiseley also desired to expand that of his culture. Like Bacon and Thoreau, he tried to contribute to holistic knowledge by challenging the prevailing intellectual world view with words, not with scientific experiments. By writing about mystery in the universe, he encouraged people to take their existence less for granted and instead to marvel at themselves and the universe. By writing about humankind's ability to influence its own evolution by enhancing its finer qualities, he encouraged people to develop a new vision of their future, one that emphasizes compassionate relationships rather than materialistic competition. Ultimately, he hoped his writing will help people feel an inner connection to nature, which will lead them to feel responsible for its preservation.

Eiseley viewed himself as a potential catalyst for others' stretching their intellectual abilities and discovering new ways of being human. He recognized that although reaching out and changing is universal to life forms, each individual form encourages or resists change in its own way. Therefore as one human seeking and experiencing such maturation, he passed on to others what he considered significant about the process. Recalling one moment of growth he says, "Not everyone receives the same truth or exists in the same realm of understanding. I have written an account of this episode because it involves a message, and there are those without messages who like to receive them through the medium of others" (ASH, p. 228). His writing, then, was a sustained effort to influence the lives of his fellow humans. He left accounts of his experiences, hoping that instead of resisting
change, others too would welcome it. He says, "In what has come to
pass, it is for the reader to detect his own gambler, himself as
fugitive, his own rebellious scholar. In the end it may be he will
have discovered personal secrets and in the resulting confusion I will
have achieved my purpose and effected once more my own escape" (ASH,
pp. 249-50). Thus Eiseley wrote in the hope that after him there will
indeed be others to continue humankind's evolution.

Concerned that humans in his culture have such great pride that
they view themselves apart from nature and superior to other life
forms, Eiseley left accounts of himself abandoning such pride, feeling
one with other life forms, and thereby "being" human in a new way.

Reviewing The Unexpected Universe, Auden identifies Eiseley's playing
with a fox cub as an example of this abandonment of self-importance.
Auden says that Eiseley thereby shared in the Carnival experience,
where laughing at oneself and at others allows social distinctions to
be ignored. However, Eiseley did more than just laugh at himself
for playing with the cub; he also abandoned the western view of how
humans can behave with other living forms. Eiseley moved beyond the
realm of the permissible to that of the possible when wrestling over
a bone with the cub. He says, "It was not a time for human dignity.
It was a time only for the careful observance of amenities written
behind the stars" (UU, p. 210). Thus he showed that he abandoned the
western conception that humans are superior to animals. Instead he
"was" as the moment itself dictated—in this case, the fox cub's equal.
As a result, he presented himself as an example of one human who
momentarily lived with a different perspective on life.

Eiseley also offered views toward reputation and power that are different from his culture's. For example, he recognized that as an anthropologist he was criticized for publishing poetry and personal essays. Nevertheless, he continually risked his reputation, published such writings, and in All the Strange Hours mentions the harsh judgments he received from some colleagues. In his autobiography, he particularly shows that power should be wielded other than for the usual reasons of status or material gain when he points out that at the University of Pennsylvania he used his administrative power to help redesign a street corner so that fewer traffic accidents would harm humans and animals. He says, "Power, this was what it was for, not the humiliation of men. . . . Life, life for the purposes of life, and is that then so small?" (ASH, p. 205).

The Unexpected Universe and All the Strange Hours, then, indicate that over a long span of time, Eiseley transcended his former ways of "being." Published six years apart, the books reveal him attempting new endeavors, following his own conceptions of disciplines, blurring borders between professions, and encouraging others to search for their own new awarenesses. Such persistent effort reflected his desire to evolve as an individual and as a member of the human race. However, he found that such effort, while personally and biologically necessary, was sometimes also emotionally disquieting: "Personally I have no compass, no directions. For me there is no clear stretch of road . . ." (ASH, p. 180).
Sustaining Eiseley's dedication to continual growth were moments of transcendence that reconfirmed his belief that the potential exists for him—and for all people—to become ever more human. He calls such moments "miracles," or instances of discontinuity: "The only thing that characterizes a miracle, to my mind, is its sudden appearance and disappearance within the natural order, although, strangely, this loose definition would include each individual person. Miracles, in fact, momentarily dissolve the natural order or place themselves in opposition to it" (UY, p. 200). Considering valid the scientific principle of indeterminism, he believed that such unexpected moments can happen at any time. Once they do happen, he felt they alter forever a person's fundamental conceptions about life and make the universe look more complex than earlier imagined, for one realizes that time, space, and especially consciousness are but little understood.

These transcendent moments—when one perceives the universe and the self in an unexpected way and, as a result, lives momentarily in a new way—leave a person off balance and unsure of the assumptions upon which he bases his life. Eiseley says that the person can then do one of two things to go on living sanely: "One must then simply deny the episode or adjust one's vision. Most follow the first prescription; the others never talk" (ASH, p. 100). Eiseley was one who adjusted his vision and then went a step further; he wrote about such episodes. He admitted, however, that they can never be described accurately and certainly can never be measured since the experiences are qualitative. Thus Eiseley, believing such miracles an integral part of reality, tried to
discuss them by using literary imagery, symbolism, and metaphor since traditional scientific experimentation and reporting did not allow him the means to investigate this aspect of life. He moved beyond the practices used by his more orthodox scientific colleagues.

Eiseley believed that people will experience transcendent moments only if they are prepared to recognize them. Thus although several people share an experience, only the prepared will perceive any greater significance in it. He felt that one can recognize such unexpected moments only if he is first willing to admit to limitations in his own knowledge and in traditional science's ability to fully explain the universe. Because such acceptance discourages one's taking for granted human intelligence and his own conceptions about the universe, it frees him to discover radically new awarenesses and wonders.

People must know that they are searching for new knowledge. However, to find it, they must also have some idea of what can yet be discovered: "But the treasures. Let us come to the point. The treasures are in the mind that seeks them. Otherwise they are not recognized. Foreknowledge and preparation are needed..." (ASH, p. 183). Eiseley had his own ideas about what can yet be learned. He believed, for example, that more can be understood about humankind's mental capabilities, especially the imagination. He believed that people can discover new relationships to nature, especially to other life forms. People can also conceive of time in ways less causal and linear. And people can experience new types of human relationships, especially ones based more on compassion than competition. Thus when
seeking a transcendent moment, Eiseley had expectations of what he might find. He says, "How often, if we learn to look, is a spider's wheel a universe, or a swarm of summer midges a galaxy, or a canyon a backward glance into time" (UU, p. 106).

Eiseley particularly believed that people must develop above-average sensibilities in order to appreciate transcendent moments and to glean special significances from them: "The common man thinks a miracle can just be 'seen' to be reported. Quite the contrary. One has to be . . . reasonably sophisticated even to perceive the miraculous. It takes experience . . . One has, in short, to refine one's perceptions" (UU, p. 201). His own "sophistication" and "experience" resulted from his self-education, scientific training, and personal background, which combined to form his own way of understanding the world and his own nature. As a result, his science cannot be separated from his personality, for they intertwined to determine how he discovered his own meanings.

Eiseley's self-education—his wide reading of literature, for example, allowed him to draw upon cultural knowledge. He admits that ideas "do not spring full-blown from a single brain. There has to be wandering along bypaths, midnight reading, and sustained effort" (ASH, p. 186). He therefore recognized his intellectual debt to great individual minds as well as to concerted group effort. His specific training in anthropology and paleontology gave him both breadth and depth of knowledge concerning the general history of humankind and ideas, which he then applied to his own life; for example, he calls his
autobiography an "excavation of a life." He says, "Men should discover their past. I admit to this. It has been my profession. Only so can we learn our limitations and come in time to suffer life with compassion" (ASH, p. 96). His personal background enabled him to learn in idiosyncratic ways. Identifying his own methods of reaching new awarenesses he says, "Perhaps [as a child] I had begun to learn independence among the mad Shepards, or freezing in midnight streets, or listening to my father declaim 'Spartacus to the Gladiators,' or when he coiled his fist and made me shiver when he read from Shakespeare . . ." (ASH, p. 178). Thus he learned, among other unique ways, by associating with strange people, by reacting kinesthetically to events, and by listening to others.

Instead of separating these aspects of his life that influenced how he learned, Eiseley pondered their relationships and their combined influences, for they ultimately determined the miracles he encountered and the messages he found in them. His autobiography especially examines this complexity of self: "Each man goes home before he dies. Each man, as I, physically or mentally, it does not matter which, goes shivering up the dark stairs, carrying a taper that sets gigantic shadows reeling in his brain" (ASH, p. 222). Realizing that wisdom comes from all aspects of his life, he wrote about many of them, continually referring to personal experiences, to literature, and to statements made by great humanists, as well as to scientific facts and theories. Together, these aspects ultimately formed his own way of seeking meaning in the universe.
Eiseley drew on this complex training in order to recognize and then learn from the miracles that sustained his gradual transcendence of self. By receptively experiencing these miracles and by actively trying to instigate their occurrence, he remained continually open to change. Auden points out one way that Eiseley remained ready to achieve new awarenesses. Auden says that Eiseley "listened" for a "Voice" that "always says something new and unpredictable" and that fosters a "change of self, however painful."\(^5\) Such "listening" can be seen in Eiseley's waiting patiently and expectantly for transcendent moments to happen to him. Because he thought that even small events can convey important messages, he felt that the unexpected could occur at any time; he had to just remain alert for its appearance. For example, desiring a miracle to restore his sense of wonder at the world, he noticed one evening a strange light flickering in a neighboring apartment window, a light he assumed emanated from a scientific experiment:

I began unconsciously to hang more and more upon that work of which, in reality, I knew nothing. It sustained me in my waking hours when the old house, amidst its yellowing leaves, assumed a sleepy and inconsequential air. For it had restored wonder and lifted my dreams to the height they had once had when, as a young student, I had peeped through the glass door of a famous experimenter's laboratory. I no longer read. I sat in the darkened study and watched and waited for the unforeseen. It came in a way I had not expected (UU, p. 199).

Because Eiseley was ready and waiting for it, he experienced his uplifting miracle.
Soon after waiting in his room he had to take a trip. While driving through a forest with his thoughts "in a receptive mood," he noticed a shadow flickering in the periphery of his headlights, a shadow which he imagined was a dog. The sight represented for him the ever-changing shapes of life forms, including humans, as they evolved through time. He realized then that his own mind changed over time because his mind was part of the larger process of evolutionary development (UU, p. 204). The unexpected event in the forest successfully rekindled his awe of nature's dynamics.

Eiseley acknowledged that even as a youth he waited for moments of transcendence to happen to him, confident that they would influence his life. He particularly recalls one "golden" day that he and other drifters spent at a rural train depot, lounging on the platform and enjoying the sunshine. At that time in his life, Eiseley had been wandering from place to place not only physically but also intellectually; he could not decide on the professional direction his life should take. He solved his dilemma by watching, waiting, and listening for a miracle to guide him:

As for me, I dwelt nowhere but in the unformed malleable present. Someone once said one should invent one's destiny, but if so I was devoid of inspiration. I merely waited and observed, having none of the skills these others [at the train station] had acquired. I waited and admired them all. . . . I was merely lost, waiting to find a role for myself. . . . I was young. Someday something would happen to decide my course (ASH, pp. 63–64).
Eiseley's "listening" included not only waiting for miracles but also reflecting on past experiences and gaining new awarenesses about them. This reflecting was meditative, for by recalling events he allowed himself—now a more mature and experienced adult—to be receptive once again to messages inherent in them. Thus he pondered memories from all stages of his past not just to relive pleasant memories but instead to allow himself another opportunity to perceive significances. He hoped to discover what he might have ignored or been too untrained to notice earlier. For example, he recalls his unexpected interaction with a spider: "In the years since, my mind has many times returned to that far moment of my encounter with the orb spider. A message has arisen only now from the misty shreds of that webbed universe" (UU, p. 51). Such contemplation helped him find new messages that would help him live a more enlightened life in the present and the future.

Eiseley's expectant waiting for moments of transcendence often proved worthwhile; and when such moments occurred, he was usually conscious of their influence. In such events he was an alert, receptive, yet somewhat passive participant, who because of his temperament and training allowed himself through his imagination to be acted upon. He freely took part in such a process because he expected to gain new awarenesses. However, during some transcendent moments he was almost forcibly under their control, conscious only later of his participation and of significances involved.

Even as a young man, Eiseley was aware of some miracles as they happened to him. As mentioned earlier, he considers his day at the
train depot as a chance meeting from which he learned a new way of viewing people and time. He says, "It was the most perfect day in the world, the day time stopped. And I knew it, you see, I was young, but I knew it even then. That was the miracle, that is why I have remembered this one day" (ASH, p. 66). During that day, he allowed himself to accept unquestioned not only the absence of time but also the presence of men who appeared to be of different stages of human evolution. Therefore, for one miraculous day he lived in the world differently than ever before.

Other transcendent moments similarly happened to him, and again he just let himself flow with the experience, aware that he may thereby gain new knowledge. For example, he says of a fog that crept onto a beach where he was walking, "Finally, it approached and enwrapped me, as though to peer into my face. I was not frightened, but I also realized with a slight shock that I was not intended immediately to leave" (UU, p. 204). At the time, he recognized that a miracle was happening to him. Rather than question or analyze the situation, he went along with it, simply "being" as the moment itself dictated and letting himself be acted upon. Once enwrapped in the fog, he sat beside a boat and then experienced the transcendent moment: "I closed my eyes and let the tiny diffused droplets of the fog gently palpate my face. At the same time, by some unexplained affinity, I felt my mind drawn inland, to pour, smoking and gigantic as the fog itself, through the gorges of a neighboring mountain range" (UU, p. 205). Thus he became other than what he was; instead of human, he was the fog—and he was
willing to be so.

Regaining his sense of self, Eiseley perceived a message from his merging with the fog: he was one with the elemental world, and even his mind had such physical qualities. He says,

As suddenly as I had been dispersed I found myself back among the boat timbers and the broken shell of something that had not achieved existence. 'I am the thing that lives in the midst of the bones'—a line from the dead poet Charles Williams persisted obstinately in my head. It was true. I was merely condensed from that greater fog to a smaller congelation of droplets. Vague and smoky wisplets of thought were my extensions (UU, p. 206).

He then went back forty years in time and relived seeing his father's last dying actions—playing with his hands. Returning again to the present, Eiseley unexpectedly noticed a fox cub beneath the boat he was leaning against. While playing with the cub, he realized that the universe was "in reality, a child's universe, a tiny and laughing universe" (UU, p. 210). He then understood that his father's actions reflected that side of the universe. Thus through a series of unexpected experiences on the beach, Eiseley achieved new awarenesses about time. He had been able, momentarily, to go back in time to his father's bedside, and he also had been able simply to "be" with the fox cub, much as humans before evolving self-awareness had interacted with animals.

In contrast, other transcendent moments happened to Eiseley so quickly that he was unaware of taking part in them; instead, he just
"lived" those moments. For example, once when he was lecturing before an audience, a photographer's camera flash caused him immediately to "fall backward" fifty years and relive his fighting with a railroad brakeman on top of a boxcar. Unable to control his memory, Eiseley faltered in his lecturing as his mind ranged from the present situation to his past experience as a desperate youth hopping freight cars. He transcended "normal" linear time and gained a new insight about himself through an unexpected occurrence that momentarily took over his life.

Eiseley also gained new knowledge by being conscious of his kinesthetic responses. As a result, he perceived events not only intellectually and emotionally but also physically, thereby allowing himself another way to recognize a miracle and remember messages gleaned from it. In addition, his body provided him another means, besides his imagination, of understanding human capabilities as well as limitations. Believing that his mind and body were interdependent, he especially learned from his body new ways to view his relationship to nature. For example, his scholarly lecture was interrupted by his remembering his almost uncontrollable desire to beat up the brakeman on the roof of the boxcar. Describing that violent fight, he calls himself "the murderer who had not murdered but who carried a red wire glowing in his brain" (ASH, p. 12). This aspect of himself reflected his physical senses, which connected him directly to animals and elemental nature. Indeed, Eiseley speaks often of his liking to be in action. For example, in a dream he encountered the mysterious Unseen Player, who said to him, "You had to turn to scholarship, remember? You liked this crush of
bodies [in football] better. The direct approach. No metaphysics. At heart you are a primitive" (ASH, p. 261).

Eiseley felt that one reason he recognized transcendent moments was that he, like all humans, retained instincts from the era when humankind was first evolving.6 He also believed that his instincts were heightened by his childhood on the high plains:

I have remarked that I was born in the central plains, compacted out of glacial dust and winter cold. I see animal faces as readily as though I sat with my mother's one blighted gift in a Cro-Magnon cave. The religious forms of the present leave me unmoved. My eye is round, open, and undomesticated as an owl's in a primeval forest—a world that for me has never truly departed (ASH, p. 139).

Eiseley's frontier environment enhanced not only his kinesthetic responses but also his subjective notions about humankind's relationship to time and space. The plains were almost as undomesticated as the land before humankind's evolutionary appearance. Because he grew up there, he was well-attuned to responding kinesthetically to other landscapes that he journeyed through as an adult. For example, he remained significantly impressed with the Badlands in South Dakota, where he worked as a bone hunter and geologist. He refers often to that land's sights, sounds, and temperatures. His kinesthetic responses, gained while climbing, crawling, and digging in other such landscapes, aided his intellectual understandings of humankind's relationship to nature, time, and space: "Once, far north in Canada, I came upon a tremendous pile of boulders tossed about like houses in a hurricane. I
was dwarfed beside them" (ASH, p. 154). He goes on to say of such sights that make humans seem less important, less all-powerful, "These pictures reduce us to miniscule proportions, but I have so long wandered among eroded pinnacles and teetering tablestones that I have felt as lost as an insect drifting into a colossal ruin, not alone of earth, but of ages" (ASH, p. 155). He concluded from his wanderings on the land and his studies of its formations that messages can indeed be gained from such landscapes. His intellectual, emotional, and kinesthetic responses worked together to allow him to absorb such messages from experiences on the land.

Kinesthetic responsiveness influenced Eiseley to look to nature rather than only to humans for instruction, for he felt that messages are learned better if they are visually and kinesthetically striking rather than merely intellectually stimulating. Lessons that are "consciously literary" he remembered even less well. Part of experiencing transcendent moments, then, is total physical and mental involvement in them. "But why should my dance with a crane supersede in vividness years of graduate study?" he asks. "One can see a certain lack of disciplined control in a mind of this sort" (ASH, p. 153). Eiseley did not just watch this crane in the zoo; he moved with it, much the same way he crouched on hands and knees, wrestling over the bone with the fox cub. By so doing, he behaved, not just thought, in a new way, and thus recognized and remembered the importance of the moment.

Eiseley's awareness of kinesthetic responses make him sensitive to
transcendent moments that helped him discover his elemental relationship to nature. He calls his body his "life machine"—the structure that keeps his very "being" alive. He adopted this view of his body early in life, for as a youth he had tuberculosis. To combat it, he tried living in the mountains, where he learned that his existence was a biological process: if the tuberculosis spread, he was doomed. Thus he learned that his body was as important to his existence as his mind.

Later, when riding boxcars, he learned that his body was part of the greater "life force" in nature. One night he almost fell asleep on top of a boxcar: "I drowsed again and spoke to phantoms in the black dark. My hands still held. Slowly, even as I slid downward, something in my body, something divorced from my groggy conscious mind, screamed in protest" (ASH, p. 51). He did manage to hold on, and as a result became even more aware of the powerful groping toward survival and growth that all living forms—even his body—possess.

Eiseley's body also taught him that science cannot fully explain the phenomenon of life. As a college student, he once unexpectedly passed out on the doorway of his apartment. Later he wondered not only how his body restored him to consciousness but also why:

From a single experience I had learned I was a genuine stranger in the cosmos. No blood cell, no single neuron would ever inform me how the light of consciousness had been relit; they had made of me a construct. I was the lonely one in whom they swarmed in their millions. I was their creature; alone they had re-created memory and light. Once more I, the construct, am eternally grateful (ASH, p. 78).
Because such kinesthetically vivid experiences reminded him of the mysteriousness in nature, Eiseley was receptive to new conceptions of his relationship to nature. Instead of accepting his culture's view and considering himself alienated and separated from other life forms, he realized that he was physically as well as mentally part of the "life force." He accepted, therefore, connection to and dependency upon physical nature. When he one day tripped, fell, then realized that he was bleeding, he experienced a sudden new awareness that the very cells of his body participated in that biological phenomenon: "And I, for the first time in my mortal existence, did not see these creatures as odd objects under the microscope. Instead, an echo of the force that moved them came up from the deep well of my being and flooded through the shaken circuits of my brain" (UU, p. 178). For a moment, Eiseley lived in a new relationship with his own body. He was one with life, and felt part of nature itself. Conversely, he realized the physical limitations that humans must contend with since humans are "natural" beings, subject to physical principles. However, he learned that he can think of his body in a new way—as a universe within and of himself for which he was responsible. Thus although he learned about his physical limitations, he discovered that his imaginative capabilities could still expand.

Besides waiting for miracles, reflecting on past experiences, encountering miracles, and responding kinesthetically to events, Eiseley also receptively experienced transcendence by dreaming. He describes many of his dreams and calls them "interior teachers." These
dreams were moments when the causal order of the world was abandoned and memories and images occurred to him unexpectedly, nonsequentially, as well as uncontrollably. Through such dreams he received messages that he often did not know how to decipher. For example, he recounts a complex dream which concerned the Unseen Player, Tom Murry's escape from prison, and himself as a youthful drifter. The dream contained an important message that addressed his recurring feeling that life was really a meaningless game or pointless struggle for survival. The Player told him that the game was called "the count of the days toward wisdom." Upon waking, Eiseley pondered the dream and finally concluded that "the wisdom could take care of itself. It was beyond me. It was beyond every man. But for all that the counting mattered" (ASH, p. 263). Therefore, from his disquieting dream, Eiseley gleaned some comfort and reassurance. Dreaming itself was a major means through which he received much needed messages, and as a result he valued dreams as highly as wakeful transcendent experiences occurring in broad daylight.

Besides having been receptive to transcendent moments, Eiseley actively sought their occurrence. Writing is one way he tried to bring about transcendence, for while writing he experienced unexpected memories and gained from them new awarenesses about the past as well as the present. Time was transcended because memories occurred to him unsequentially, causing him to see new relationships among past events. As a result, he lived in a new way when writing, for he decisively placed himself under the control of his memory. Describing the mind as an
There are pictures that hang askew, pictures with outlines barely chalked in, pictures torn, pictures the artist has striven unsuccessfully to erase, pictures that only emerge and glow in a certain light. They have all been teleported, stolen, as it were, out of time. They represent no longer the sequential flow of ordinary memory. They can be pulled about on easels, examined within the mind itself. The act is not one of total recall like that of the professional mnemonist. Rather it is the use of things extracted from their context in such a way that they have become the unique possession of a single life. The writer sees back to these transports alone, bare, perhaps few in number, but endowed with a symbolic life. He cannot obliterate them. He can only drag them about, magnify or reduce them as his artistic sense dictates, or juxtapose them in order to enhance a pattern. One thing he cannot do. He cannot destroy what will not be destroyed; he cannot determine in advance what will enter his mind (ASH, p. 151).

By writing, Eiseley actively gave himself the opportunity to experience transcendence by letting his memory and imagination take over. He believed that the writing experience was related to the indeterminism inherent in the universe, for the process developed unexpectedly and could not be fully explained, although the results—a written work—could be analyzed (WW, p. 64). Indeed, the discontinuous narrative of Eiseley’s autobiography reflects this experiencing of nonsequential memories.

Trained in geology, paleontology, and anthropology, Eiseley viewed time in terms of millennia as well as individual life spans, and time was one aspect of life that he continually focused on, personally as
well as professionally. The personal point of view was especially his interest, for he realized that individuals' conceptions of time differ since individuals will remember shared events differently—or even not at all. Therefore, he wished to discover more about his own manner of perceiving time and remembering.

Eiseley found that recalling people and events kept them alive and in a realm different from that of everyday life. For example, by remembering his day with the drifters at the train depot, he maintains the miraculousness of the experience: "It was the last of my drifting days and if anyone were to ask what year it was—what month, what afternoon—I could not answer. I would be able to say only that it was for me the most perfect day in the world and that is why I retain its memory, safely severed from time and reality" (ASH, p. 61). "Safely severed" implies preservation, and Eiseley indeed tended carefully to memories. Even as a child he remembered the past lives of animals and birds by planting small gold crosses over the graves he dug for them.

For Eiseley, writing was one way of actively maintaining memories of small things in life that, once gone, are apt to be forgotten. He knew that published writing is preserved in libraries and, therefore, is always ready to contribute to cultural knowledge, thereby transcending the life span as well as the reputation of the individual writer. By recalling and writing down his own memories, Eiseley actively transcended the conceptions that time is linear and causal. He not only experienced his own past in new time references but also enabled his memories and awarenesses to live beyond his own life span.
and into the indefinite future. Upon regaining his hearing after a prolonged ear infection, he says, "I ought to write something about this and the kettle . . . . But mostly the kettle. I mean that little flame and how it purred. People don't appreciate things like that, they never do till they are gone" (ASH, p. 179). He did write about the kettle, thereby sustaining the new awareness about hearing and sharing it with others. In the same way he kept alive the memory of Willy, an apartment garageman. Eiseley says, "He exists in me, he watches" (ASH, p. 158). Willy does exist and he will continue to exist because Eiseley wrote about him.

Although Eiseley did not always encounter or instigate miracles, he found that both physically and mentally looking for them were comforting and worthwhile in themselves. Setting out physically, he often traveled into the countryside alone, knowing that such movement could bring him into contact with surprising events. He knew, for example, that he could meet unforeseen types of people:

That was another thing about the road. People were always appearing from some other century, entering and exiting, as it were, at will. You never knew whether your companions were from the past or the future. Since by common consent we had no real existence, we might as well have been teleported from the future as the past (ASH, p. 63).

He knew that he could also encounter objects that had the potential to teach him messages. Thus when wandering, he investigated even the smallest chance occurrence and his own reactions for their possibilities.
to instruct him. For instance, one day while walking along a beach he saw in the surf a shell that appeared to have writing etched on it. Intrigued, he rushed into the water and retrieved the shell: "I lifted it up with the utmost excitement, as though a message had come to me from the green depths of the sea" (UU, p. 145). He later learned that the "writing" was the shell's natural pattern. However, reflecting on his act of picking up the shell, he concluded that just as he needed to find messages in nature, so all humans needed to find them.

Eiseley also conducted mental searches, willingly pursuing new directions of thought in order to discover new awarenesses. In his later years, he wished to explore his growing conviction that modern evolutionary theory does not fully—and can never fully—explain biological nature. After observing in his backyard the complexity of giant wasps' instincts, he concluded that some phenomena cannot be well articulated verbally, much less studied empirically; they remain mysteries that can only be wondered at (ASH, pp. 238-39). Together with past doubts about science's ability to understand all of nature, his experience with the wasps led him to decide that he must continue moving into new intellectual territory:

As I walked [away from the backyard] I knew, with the chill of a not too welcome discovery, that I was leaving the sharply defined country of youth and scientific certitude. I was seeking an undiscoverable place, glimpsed long ago by the poet Shelley

built beyond mortal thought
far in the unapparent (ASH, pp. 246-47).
To sustain his own gradual evolution, Eiseley often turned to animals for moments of inspiration and guidance. As mentioned earlier, he associated with animals not to find ways that humans can regress to a brute state, but rather to identify human capabilities as revealed by comparisons to animals, capabilities that can either be suppressed or enhanced and refined. He believed that humans fear their connection to animals, for it reveals that human evolution still continues and that strict boundaries between humans and animals may be nonexistent. As a result, humans feel their superiority over other life forms is reduced. Eiseley believed that humans should instead value and honor their relatedness to animals, for it can help humans redefine their natures and direct their evolution toward more humane goals. Eiseley particularly believed that humans can learn from animals how to live harmoniously with nature: "In the animal world lines of definition are not as severely drawn as in the civilized one that we inhabit" (ASH, p. 152).

Eiseley believed that humans can learn more about evolutionary characteristics which still negatively influence human behavior today. For example, as mentioned earlier, he thought that his culture's preoccupation with developing its tool-using skills reflects humankind's age-old need to manipulate the environment in order to survive. He also thought that many of humankind's current aggressive behaviors have their roots in the distant evolutionary past. However, he also felt that his fellow humans deny being so influenced by this heritage. Eiseley says that humans "have come from the dark wood of the past, and
our bodies carry the scars and unhealed wounds of that transition. Our minds are haunted by night terrors that arise from the subterranean domain of racial and private memories" (UU, p. 195). He particularly thought that animals can help humans recognize and face these "night terrors," and that humans eventually can grow beyond the limitations such terrors pose.

By interacting with animals, Eiseley learned about his own aggressive nature. He especially learned from his dog Wolf, with whom Eiseley often lost his distinctions between animals and humans. For example, after giving Wolf a fossilized bone to gnaw upon, Eiseley saw his domesticated dog protect the bone with wild instinct. But Eiseley was even more shocked to find himself responding with similar behavior: "Even to me the shadows had whispered—to me, the scholar in his study" (UU, p. 95). Eiseley then lured Wolf into going for a walk, which restored Wolf to his tame self. When Eiseley felt himself going back in time to the ice age, Wolf brought him back to the present: "It was he who was civilized now" (UU, p. 96). The borders between human and animal momentarily blurred, and Eiseley learned to view his own nature and his dog's in a new way.

Eiseley admired cultures in which humans feel spiritually connected to the animal world. He believed that these humans, whom he refers to in the singular as "the Indian," perceive few definite, and therefore limiting, distinctions between humans and animals. Unlike humans in western culture, "the Indian" believes that animals and objects can teach humans important lessons about living and feels that humans,
animals, and nature are dependent upon each other for survival.

Believing as "the Indian" does that animals convey messages, Eiseley listened when a cat reminded him of his finer qualities. Walking home one Christmas eve, Eiseley heard a cat talking to him from behind the bushes by his front door: "This invisible cat was informing me of the nature of the world, of his deliberate abandonment, of his innocence of wrong, and of my duties as a human being" (ASH, p. 229). To Eiseley, the duties included fulfilling animals' trust by not using the power attained through self-consciousness to exploit animals or deny them a comfortable existence. He decided not to disillusion the cat and upheld his responsibility by taking the cold and hungry cat into his home. He believed that the cat's initiating communication and his own responding to it were significant: "For a moment we closed the barrier between forms, we talked together. . . . He commanded me to a duty known between us. Let it stand for the record—I will hold the memory for him" (ASH, p. 235). Eiseley not only consciously chose to interact with an animal in a way many modern humans would find strange, but he also wrote about the episode, describing the way that he, as one human, was compelled to behave according to his more "humane" qualities.

Animals especially taught Eiseley about what he considered to be humankind's finest quality: love. Just as the cat instructed him about human responsibilities, a dog taught him about devotion. During his days as a young drifter and against his own better judgment, Eiseley allowed a stray dog to accompany him for awhile. Fifty years later, Eiseley still recalled painfully how, after jumping a freight car in
order to continue his wandering, he watched the dog run beside the train, trying to keep up with him. Abandoning the dog is something Eiseley never forgot: "If anyone taught me anything about love, it was that dog" (ASH, p. 59). Because he felt such compassion for animals, he believed himself an outsider among humans who have no such similar commitment:

Let men beat men, if they will, but why do they have to beat and starve small things? Why?—why? I will never forget that dog's eyes, nor the eyes of every starved mongrel I have fed from Curacao to Guemavaca. Nor the drowning one I once fished out of an irrigation ditch in California . . . . This is why I am a wanderer forever in the streets of men, a wanderer in mind, and, in these matters, a creature of desperate impulse (ASH, p. 60).

To Eiseley, learning about love and loving are the two most significant acts a human can undertake, and they formed the center of his view of how humans should think and behave as part of nature. He found his emphasis on love rather heretical, however, for it revealed that instead of viewing the world dispassionately and with a sense of superiority, he felt an elemental affinity with even the least noticeable life forms. Such love, he says, "was like the renunciation of my scientific heritage" (UU, p. 86). That heritage tends to separate species and analyze their differences. In contrast, the love he speaks of reaffirms the relatedness of species which is that all living forms participate in and indeed constitute the most remarkable miracle in the world—life arising from chemicals and continually
reaching out both to perpetuate itself and to grow beyond itself.

Eiseley's love for biological nature and the inanimate universe combined both his sustaining and sustained ways of achieving transcendence of self: he experienced moments of love that made him more aware of his individual and human relatedness to nature; having experienced such transcendent moments, he tried to live daily as a more loving person, hoping to become ever more responsible and humane. Instances when Eiseley is enveloped by this feeling of love cause him momentarily to experience union with nature. For example, after once admitting that in spite of his intense scientific training he still loved the world, he suddenly realized that he "had come full upon one of the last great rifts in nature". He perceived that universal love can happen only to humans since they alone possess the consciousness to recognize such love. However, this love also joins humans to nature, for it allows humans to feel one with all life forms. Therefore, in spite of being the only life form with awareness of self, humans possessing such love do not have to feel alone in the universe. They can then act supportively rather than competitively toward other life forms. However, Eiseley realized that admitting to such love isolated him from conservative evolutionists, for his view of love contradicted their insistence that life forms must compete against each other to survive.

The transcendent moment in which Eiseley fell, saw his blood, and then realized that his cells formed a universe of their own within his body was another such moment in which he discovered how to love in a
more all-encompassing way: "A great wave of passionate contrition, even of adoration, swept through my mind, a sensation of love on a cosmic scale . . ." (UU, p. 178). This love made him aware of his fundamental connection to the "life force" in nature, which even his body cells shared: "For the first time, I loved them consciously . . ." (UU, p. 178).

Ultimately, Eiseley learned through a similar transcendent moment that he was even capable of loving in the most holistic way of all—by loving the world even more than his own self. Middle-aged and discouraged, he walked along a beach and searched for a miracle to revitalize his optimism about humankind's future:

It was here that I came to know the final phase of love in the mind of man—the phase beyond the evolutionists' meager concentration upon survival. Here I no longer cared about survival—I merely loved. . . .

I felt, sitting in that desolate spot upon my whiskey crate, a love without issue, tenuous, almost disembodied. It was a love for an old gull, for wild dogs playing in the surf, for a hermit crab in an abandoned shell.

It was a love that had been growing through the unthinking demands of childhood, through the pains and rapture of adult desire. Now it was breaking free, at last, of my worn body, still containing but passing beyond those other loves. Now, at last, it was truly 'the bright stranger, the foreign self,' of which Emerson had once written (UU, pp. 191-92).

Such transcendent moments helped Eiseley stretch his individual and human capabilities to love.

Having experienced briefly such new ways of loving, Eiseley tried
to live daily in a more compassionate manner. He chose to act so that he would show respect toward nature, thereby directing his behavior as an individual and an influential scientist toward the goal advocated by Bacon: "for the uses of life." The miracles of love helped him sustain a caring way of living.

As a private person, Eiseley took idiosyncratic actions to express and affirm his love for the world. Some actions were intended to preserve and enhance humankind's unique ability to love beyond its own species' boundaries. For example, after encountering a person throwing starfish back into the sea, Eiseley walked away thinking that the man's actions were futile, for the man was trying to assert his own mark upon nature by assisting life forms' struggle for existence. However, after experiencing a moment of oneness and love for all life forms, Eiseley chose to return to the beach and help the "star thrower" fight for life because even if the action appeared on the surface to be meaningless, Eiseley could imagine larger ramifications: "I picked and flung another star. Perhaps far outward on the rim of space a genuine star was similarly seized and flung. I could feel the movement in my body. It was like a sowing—the sowing of life on an infinitely gigantic scale" ([11], pp. 89-90). His returning the starfish to the sea was one way he put into action his feeling that other life forms, not just his own self or species, have the right to survive and flourish.

Eiseley took other idiosyncratic action to express such love for the world. For example, after wandering in a field and reminiscing about his life, he suddenly desired to release his memories much as he
flung the starfish into the sea:

I wanted to drop them at last, these carefully hoarded memories. I wanted to strew them like the blue plums in some gesture of love toward the universe all outward on a mat of leaves. Rich, rich and not to be hoarded, only to be laid down for someone, anyone, no longer to be carried and remembered in pain like the delicate paw lying forever on the beach at Curacao (UU, p. 232).

Eiseley eventually did scatter these memories—by writing them down and publishing them. His writing, therefore, was a sustained, personal means of expressing his love for the world.

Eiseley recognized that he tried to act for all humans when creating his own more compassionate relationship to nature. He treated animals kindly, not just to aid their discomforts but also to assert a reciprocal relationship that may have lasting influences between the species. As with the cat he befriended on the cold winter evening, Eiseley upheld humankind's responsibilities toward animals, careful not to disappoint and disillusion them. Once instance in which he did so was during his encounter with a hungry, stray dog living under a condemned house. The dog crawled out to greet him, and he patted its head lovingly in order to insure that the dog would remember humans as being kind:

Perhaps, after all, the little we knew of love may linger a few seasons in the wild pack that roams the final rubble of the cities. For a century or two the pack may lift its ears to a rockfall or sniff with lifted hair at a rain-
worn garment that touches an old racial
memory and sets tails to wagging expectantly.
Some dim hand that they all feel but have
never known will pass away imperceptibly.
And when that influence is no longer felt nor
remembered, then man will in truth be gone
(ASH, p. 148).

Besides taking such private actions, Eiseley also acted publicly
according to his belief that humans should develop their finer
qualities and recognize their inner connection to nature. He
realized that public efforts such as publishing books and giving lectures
would show few short-term effects, that he would be able to influence his
culture but minimally. Nevertheless, he believed himself part of
a larger process of human loving, one that eventually will triumph
and lead humans toward more responsible interaction with nature. This
process of loving is fundamental to human development, for it was
present even in the Stone Age among humankind's ancestors:

Above all, some of them, a mere handful in any
generation perhaps, loved—they loved the animals
about them, the song of the wind, the soft
voices of women. On the flat surfaces of cave
walls the three dimensions of the outside world
took animal shape and form. Here—not with the
ax, not with the bow—man fumbled at the door of
his true kingdom. Here, hidden in times of
trouble behind silent brows, against the man with
the flint, waited St. Francis of the birds—the
lovers, the men who are still forced to walk
warily among their kind (UU, p. 188).

Ultimately, then, loving daily on a "cosmic" level became
Eiseley's goal. He knew that such a goal was possible because
transcendent moments convinced him of his ability to love beyond his own
species' boundaries. By acting according to this vision of loving, he reached out toward becoming a more complete human, one who was developing not only his tool-using abilities but also his higher ethical and emotional abilities as well.

Thus in both *The Unexpected Universe* and *All the Strange Hours*, Eiseley reveals that he looked to the past as a means of furthering his own evolution. Memories of his own life as well as knowledge of humankind's history helped him imagine a better self that he and others could grow toward. Comparing life to a stream, he says, "What eventually lies on the outwash fan is memory, and it is from memory that we hesitantly try to reconstruct the nature of each individual torrent. Our energies are fierce, but unlike water we possess a power to flow toward the circumstances that create our final destiny" (*ASH*, p. 249). He remembered and imagined the past, trying to define and redefine his own and human nature. He used these memories as source material for creating a vision of what he and others could try to "flow toward" as their final destiny. He was becoming ever more human, for he could still imagine new futures for himself. Most important, he was willing to discover unexpected futures; he did not know exactly what he would become, but he hoped he would at least become more loving toward fellow humans, animals, and nature.

At the conclusion of *All the Strange Hours*, Eiseley reveals that even late in life he was still seeking new awarenesses, this time setting out to find them with companions who live in harmony with nature—his dog Wolf and "the Indian." Eiseley desired to return in time to the
the high plains, where humans once felt spiritually part of nature.
Although he did not know where such a journey would lead, he
nevertheless embarked again—through his imagination—upon transcendence
of self:

I knew what I was doing. Wolf would help me, help me past that endless confrontation in the snow. . . . We would be no longer man or dog, but creatures with no knowledge of contingency or games. All the carefully drawn human lines would be erased between us, the snows deeper . . . . We would vanish together as an anonymous grey blur (ASH, p. 266).
Notes

1 Loren Eiseley, All the Strange Hours (New York: Charles Scribner's Sons, 1975), p. 177. All further citations of this work are identified parenthetically in the text and are designated by the abbreviation ASH.


3 Auden, pp. 22-23.

4 Schwartz, pp. 53-54.

5 Auden, p. 20.

6 Eiseley's poem "The Trout," in All the Night Wings (New York: Times Books, 1979, p. 76) concerns human responses formed even during the earliest pre-animal past:

They live in the cold dark water running deep
Beneath the thunder of the falling stream.
Their lives are vague and formless as a dream—
A compound of green stone and lidless sleep
Diffuse as light, impossible to keep
Within the lucid angles of a scheme
Devised by Euclid—for they glide and gleam
With thoughts all finny that forever leap.

Into the sun they hurtle, and their play
Draws down the fishers from the shelving bank.
Men do not guess what waters pull their way
Nor from what pools their lizard bellies drank
Once, ages back . . . nor can one man explain
What old newt eye still opens in his brain.
Eiseley’s poem "The Blue Eye," in Another Kind of Autumn (New York: Charles Scribner’s Sons, 1977, pp. 65-66), reveals the interweaving of his intellectual and kinesthetic awarenesses. The following is an excerpt. By wading in a rock quarry, he perceives future ice ages:

I stripped once there alone and waded out, but a fear struck me.
After a short way the place was bottomless
the crepitations of the cold
crept over my body even as I stood in the sun.
No one would hear my cries
and I, momentarily clairvoyant,
felt the cold mount upward grasping for a victim,
a cold waiting for two hundred thousand years
just to swallow one living creature—I could feel
in the hot sun
the numbness creep up my toes and ankles, beckoning.

In his poem "No Place for Boy or Badger" (Another Kind of Autumn, p. 69), Eiseley preserves his memories of a wild landscape that was later turned into a vast suburb. The following is an excerpt:

Now I am old and the smooth lawns and
the smooth faces
do not please me. I played hide and seek here
with comrades and little girls. I suppose
in the nights badgers and foxes took over for us.
What was it all for, where are we now?
I know of only one man who limps away on a stick.
I suppose the dynamite got the foxes.
What was it all for? The long green
golf courses, the fenced-in swimming pools of
the wealthy?
Did some good come from the dead foxes, dead roots,
dead men? Somewhere we must be mentioned.
Then mention it here, like the last of a
beaten army,
not with anger, mention it that we in playtime
may be remembered, even the delicate wings
of the butterflies must not be lost.
In his poem "Say That the Gift Was Given" (Another Kind of Autumn, p. 75), Eiseley reveals his love even for the inanimate universe:

Say that the gift was given long ago—
the little cat that by the roadside cried so piteously
 till lifted up and saved and that was love;
say that it takes all forms out of some human center
 love given to serpents; to great clouded leopards moving
 in snowstorms, and there is love in snowflakes, crystals, too.
 So much love that catalogues must be kept by bees
 out of the odors of the springtime grass,
 and there is love in atoms that makes sapphires in the dark.

Only remember when you give such love
 to mountain freshets or to trees that fall
 you give yourself past every human shape
 and nothing is recallable—it stays,
 cries in the heart with winter and old age.
 A girl's eyes are a girl's and once seen are forever.

So does the falcon perching, or the water ouzel
 walking beneath waterfalls and icy torrents
 perceive the great rain of the world go past
 and if they see that way, so must the lover.

Eiseley used not only books and essays but also other media
to express his concerns about ecology and human responsibilities.
For example, he hosted an educational television program on a national
network. He also wrote and edited for the Saturday Evening Post
a column which discussed current scientific concerns. Committed also
to education, he wrote a book about his philosophy of teaching and
served on a committee that encouraged youth of all backgrounds to
pursue science. To spread his ideas, Eiseley frequently traveled the
country giving lectures and speeches. In one such speech, presented
shortly before his death, he warned of the growing threat of
terrorism, saying that such violent behavior reflects the dangerous,
aggressive side of humankind's animal heritage ("Notes on People,"
BIBLIOGRAPHY

Works Cited


Works Consulted

Works about Loren Eiseley


Reviews of Loren Eiseley's Films


Reviews of Loren Eiseley's Books

All the Night Wings


All the Strange Hours: The Excavation of a Life

Anon. Christian Century, 94 (13 May 1977), 484.
Anon. Ms., 6 (July 1977), 33-36. (Incl. brief review)
Anon. Virginia Quarterly Review, 52 (Spring 1976), 56.

Another Kind of Autumn

Puller, Edmund. "He Understood the World's Absences."

Christian Science Monitor, 30 Nov. 1977, p. 27.

Darwin and the Mysterious Mr. X: New Light on the Evolutionists

Allen, James Sloan. "Darwin According to Eiseley."
Saturday Review, 6 (Dec. 1979), 56-58.


———. "A Century Beyond Darwin."

Drummond, Mary Jane. "Natural and Unnatural Selections."

Fuller, Edmund. "More Welcome Essays by Loren Eiseley."

Gruber, Howard E. "The Origin of the Origin of Species."


Darwin's Century: Evolution and the Men Who Discovered It


Greene, John C. American Anthropologist, 61 (June 1959), 519-22.


The Firmament of Time


Francis Bacon and the Modern Dilemma

Cowen, Robert C. "Modern Dilemma."  


Patrick, J. Max. "Man of a Million Words."  
*Saturday Review*, 46 (13 July 1963), 30.

*Yale Review*, 53 (Oct. 1963), 100-05. (Incl. review)

The Immense Journey

Cowen, Robert C. "Life, Language, Art, and Archaeology."  


Krutch, Joseph Wood. "An Anthropologist's Fresh View of Life."  

Shapiro, Harry L. "Successor to Man."  

The Innocent Assassins


Anon. "Naturalist, Feminist, Professor."  
*Poetry*, 126 (April 1975), 44-50. (Incl. review)


Fuller, Edmund. "Blending Poetry with Science."  

*Sewanee Review*, 82 (Spring 1974), 393-406. (Incl. review)

The Invisible Pyramid


The Man Who Saw Through Time


The Mind as Nature


The Night Country


Notes of an Alchemist
Anon. Choice, 10 (Sept. 1973), 973.


The Star Thrower


Miller, Murray C., Sr. "Loren Eiseley Provides a Rare Blend of Science and Poetry." *Phi Delta Kappan*, 60 (May 1979), 688.


The Unexpected Universe


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