WILDERNESS AS PLACE

John D. Nystuen *

Some conflicts are the result of people talking at cross purposes because they interpret identical empirical data in quite different ways. These differences can arise from deep seated differences in belief systems or from the knowledge systems (theories) applied to understanding a phenomenon. The conflict over the meaning of wilderness is an example.

Visual Paradoxes

The biologist Richard Dawkins in his book *The Extended Phenotype* uses the analogy of the Necker Cube (Louis Albert Necker, 1832) to illustrate the fact that the same empirical evidence can be interpreted in two or more perfectly accurate ways, each of which is valid but incompatible with the other. The Necker Cube is a visual paradox in which the mind perceives a flat plane drawing as a three dimensional transparent cube in which the orientation of the cube is arbitrary (Figure 1). At one moment it appears to be viewed from above but as one stares at it, a reversal occurs and in the next moment it seems to be viewed from below. The visual paradox arises when full information is available. Partial knowledge seems to favor one view or the other.

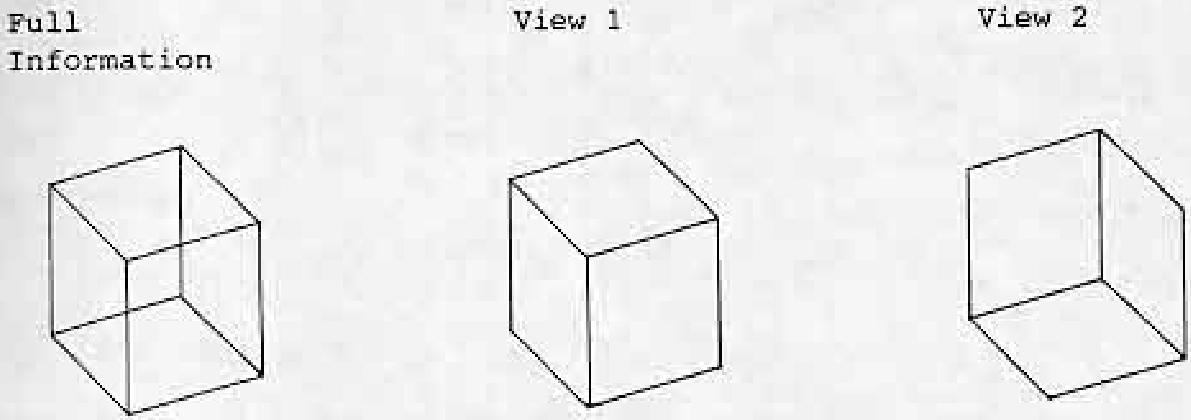

Figure 1. Necker Cube. A sequence of three cubes shown as line drawings. The reader unfamiliar with Necker's Cube would be well-advised to reconstruct this figure. The left hand cube is one with all edges showing; the center cube has three edges hidden so that it appears the reader is looking down at the cube from above; and, the right cube has three edges hidden so that it appears that the reader is looking up at the cube from below.

An additional set of views is available — that of a two dimensional plane figure which, of course, is what the drawings are. This set of views may become dominant by rotating the cube so that the many symmetries of the cube are emphasized (Figure 2).

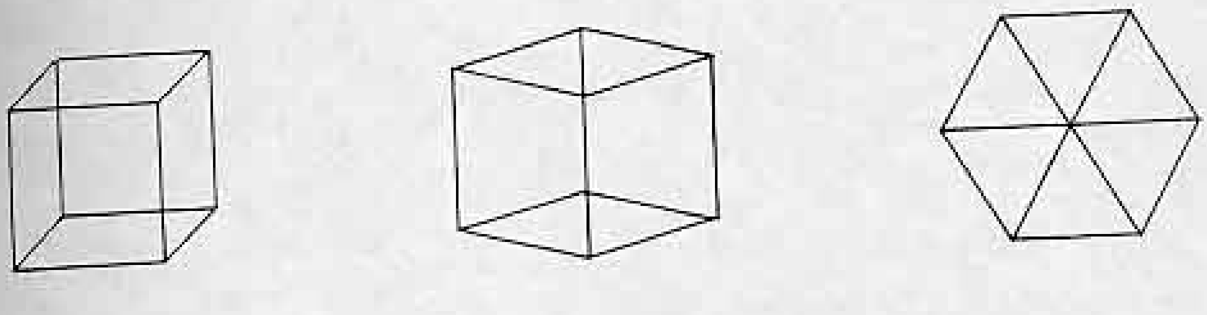

Figure 2. Views Along Axes of Symmetry of a Cube. This figure is also a sequence of three views of cubes shown as line drawings. The left cube is a full- information cube (no hidden edges) seen head-on, with a face of the cube closest to the face of the reader. The center cube is a cube with all edges showing viewed head -on with an edge closest to the reader so that the prominent edge, and the diametrically opposed edge appear to coincide for part of their length. The right cube is a view of the cube with one corner closest to the reader so that the plane view of the cube appears as a hexagon with three diameters.

Another well-known visual paradox, face/vase, was introduced by Edgar Rubin in 1915 (Figure 3). In this example additional knowledge seems to resolve the paradox — as a simple white, classical vase against a black background, both vase and profiles of faces at either side are evident. If baseball caps are put on the profiles, the faces dominate; if, instead, flowers are drawn in the vase, then the vase dominates.

Usually one has to plan how to seek additional knowledge about a problem. If only a certain type of knowledge is pursued because that is the way the problem is interpreted, then one view will likely prevail. If only economic evidence is admitted for consideration (for example), other views, other values, may remain invisible.

Past experience may bias one's interpretation beyond what seems reasonable to others with different points of view. Gerald Fisher's (1967) man-girl paradox is a sequence of eight progressively modified drawings — from man to nymph-like girl (Figure 4). The fourth drawing in the sequence was found upon empirical testing to have equal probability of being seen as a man's face or a girl's figure. However, by viewing the sequence successively from the top left to the bottom right one can maintain a bias towards seeing the man's face almost to the last drawing. There, only a faint, melting ghost of a face remains to be seen, if seen at all. The opposite is true if one starts with the girl's figure and moves in the reverse direction.

Wilderness Defined

The value of wilderness to society resembles a Necker Cube paradox. People of goodwill see the same empirical evidence in very different lights. The dominant American view of the environment is utilitarian and anthropocentric. The environment is for humans to use.

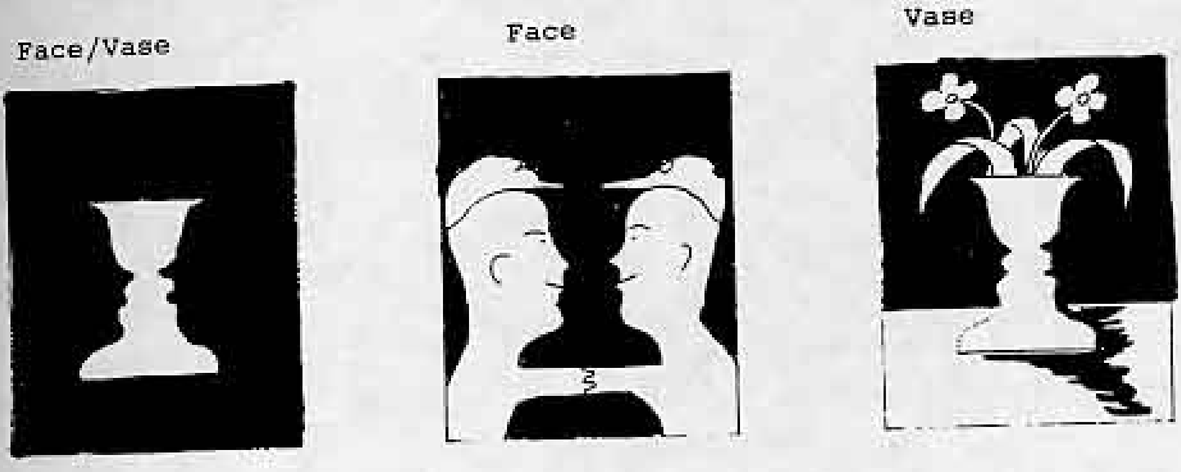
Face/Vase
Face
Vase

Figure 3. Face/vase paradox.

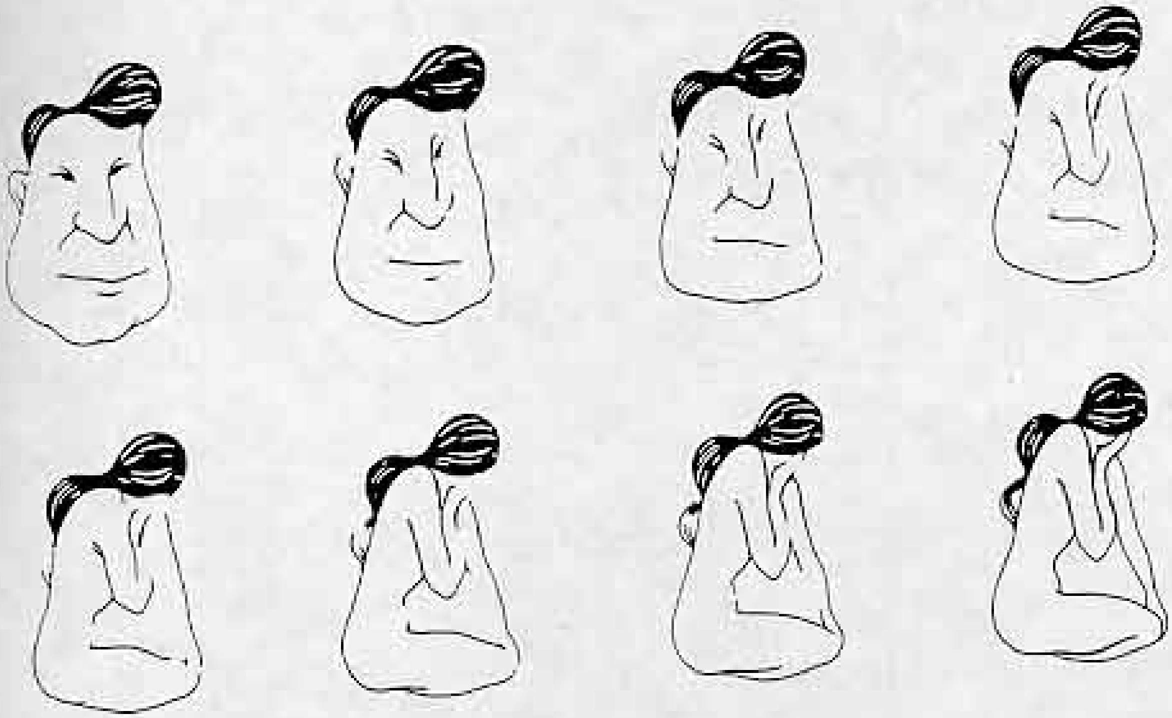

Figure 4. Man-Girl. Shows a sequence of eight line drawings–transforming a man's face to the profile of a girl's body.

Natural resources are cultural appraisals, more a matter of society than of nature. For something to be a resource we must want to use it, know how to do so, have the power to do so, and be entitled to do so. Nature offers only the opportunity for use.

A biocentric ethic imbues nature with intrinsic values independent of mankind. We are part of nature, not apart from it. In an anthropocentric view we are distinguished and especially favored by God. In a biocentric view all creatures, large and small, and plants too, have a right to exist. Most Native American cultures held to this belief. They apologized to their fellow life forms when consuming them to meet their own needs.

In Western Society the biocentric ethic is not well understood perhaps even by many of its advocates. Preservationists focus on symbols of wilderness rather than on wilderness in its full existence. Tactical reasons motivate this approach but then frequently wilderness advocates are outmaneuvered. Do preservationists really care about the snail darter and the spotted owl? Or are these species being used as focal points to preserve entire habitats? They embody or personify concern for more abstract values. Do we really want the habitat to be *preserved* unchanged?

I recall, when visiting Disneyland, a frontier scenario of "a settler's log cabin under attack and in flames." The logs were made of cement and the flames came from gas jets — they burn eternally for the tourists, daily during open hours, season after season.

The wilderness worth saving is the biosphere process. The wilderness ethic is to let wild habitats exist where human contact is slight and/or remote (outside–backdrop). Living wild habitats change and perhaps spotted owls or other species will vanish but not as a result of direct human action. Of value are natural processes remote and indifferent to mankind. John Muir said, "In Wilderness is the Preservation of the Earth." That phrase is the motto of the Sierra Club which Muir founded in 1892. Preservation of the earth as the home of life transcends societal concerns. Beyond a species imperative, it is life imperative.

Conflict or Synthesis

M. C. Escher, the artist noted for his depictions of the complexities of time and space, transcends the choice required by the Necker Cube. He gave the object some attention in his lithograph *Belvedere* (see *The World of Escher*, p. 229). The man seated in the foreground is holding an impossible cubic object while contemplating a drawing of it on the ground in front of him. In this scene Escher provides a drawing, a hand-held model, the embodiment of the concept in the structure of the castle building.

Escher simultaneously embraces two views of the cube with a model and a construction process that can only exist in the imagination. The paradox is in the images of physical things depicted. There are no paradoxes in nature. Nature exists. Paradoxes observed in nature mean that our understanding of phenomena is inadequate. This is what drives the imagination of physicists. Theory holds that nothing can exceed the speed of light — except human imagination; light bends; space is warped; black holes exist; time flows backward; light is both wave and photon. Deeper and deeper understanding of nature incorporates these constructs of our imagination. From the beginning many predictions of quantum mechanics were viewed as very strange. Now after many decades or resisting refutation, the theory yields new results that border on the surreal: that quantum phenomena are neither waves nor particles but are intrinsically undefined until the moment they are observed (John Hortgan, 1992). Yet nature exists. The problem is our mind set, the position of our understanding.

To understand Escher's impossible cube one must take into account the position of the observer. It is like a rainbow; it exists only for those who are in the proper position to appreciate it. There is no rainbow for the people who are being rained upon.

I remember talking to a Gurung woman (the Gurung are a highland people of Nepal) who, under a government program, had migrated to a lowland farm on the Nepalese portion of the Gangetic Plain (elevation 600 feet). I asked her if she missed the mountains for I had seen the breathtaking panoramas of her homeland in the high Himalaya. She said, "What is there to miss? We have four bega of good land here and we had only one half bega of very poor land in the other place."

We do not need to be articulate or self-conscious about things essential to our being. For example, food is so fundamental to our existence that we treat it very emotionally. Reasoned discourse is not the only or even dominant basis for thinking about food or debating public policy about entitlement to food. A sense of place is as deeply held and fundamental to our existence as food. We become attached to a place to the extent that we fill the place with meaning. A personal and deep attachment is made to the place called *home*. Home is familiar, safe, restoring, and controlled territory. We fight to protect it from invasion with deep feeling and energy. We will die for it.

Wilderness is a place that is *not home* for humans. It becomes real and important only to the extent that we fill it with meaning. To give it meaning it must become foreground (subject). Mere opposites of home values do not capture the essence. Is wilderness strange, dangerous, stressful, and wild territory? Strange and wild are nice but to me stressful and dangerous are the wrong emphasis, sometimes used by organizations that are trying to build self-confidence in adolescents by thrusting them into confrontation with wilderness. Recreation hunters whose intent is to achieve a kill reveal this sort of confrontational approach to wilderness as well. I believe that wilderness should not be taken as hostile, something to overcome, but rather one should enter a wilderness prepared, take prudent action and seek to experience the strange and the wild to be found there. Admittedly, some views of wilderness are going to be incompatible. But at least hunters and preservationists have visions of the meaning of wilderness, compatible or not. Certain vantage points must be assumed or wilderness will remain invisible. An alliance to build a public edifice is conceivable that might, like Belvedere, provide positions for people to calmly gaze in different directions.

Wilderness is like a rainbow. Existence depends, in part, on the position of the viewer. Do rainbows exist? Or are they only latent until observed in some fashion or another? Are they to be valued, if so, how is value assigned? Can you own one?

Wilderness As Place

The *Bureau of Land Management* (BLM) is a federal agency that controls 179 million acres of land mostly in the western states (over nine percent of the total land area in the coterminous USA). The bureau was created in 1946 through consolidation of two federal agencies, the *Land Sales Office* and the *Grazing Service*. The bureau inherited from these prior agencies the mandate to either sell off federal land to private owners as quickly and efficiently as possible or to make federal lands available for use by private individuals through issuing grazing permits. In 1976 Congress passed the *Federal Land Policy and Management*

Act which contained a mandate to the BLM to inventory, study, and make recommendations for wilderness designations for BLM lands. The bureau was to report back its actions by 1991.

The bureau people were somewhat at a loss for words. What exactly is wilderness? Is that a place with no conceivable human use; a place nobody wants? Wouldn't it be what is left over after we do our job? Could we address this mandate simply by subtraction? The answer was no, that would not do. Wilderness did not fit into a commodity based, 'I can own it,' philosophy. How could humans manage a wilderness? What would there be to do?

The bureau people were more than a little uncomfortable with their new task. In the past two decades a sea of change has occurred on how to view the environment and the BLM has been caught in its tide. Today, environmental groups are a political force with access to agency decisions through new avenues of public participation. It is not business as usual.

In the words of C. Ginger (1993):

"The philosophical challenge faced by BLM has, at its core, human perceptions of the value of land. These values are the same as those that were at the base of the disagreement between John Muir and Gifford Pinchot at the end of the nineteenth century. Muir and Pinchot debated the ideas of preservation of land versus conservation of land. Placed in the context of the wilderness protection, we might ask if we are saving wilderness for wilderness' sake or because it is a wise use of natural resources. These two perspectives (preservation and conservation) were a challenge to a third perspective that dominated the government institutions that oversaw public lands in Muir and Pinchot's time: exploitation of natural resources in the short run. All three points of view are present today in our approach to land and resources but it is Pinchot's view that provides the dominant ideal in the form of the multiple-use sustained -yield philosophy established by Congress for public land management in the United States. The debate over wilderness designations in the West illustrates that the idea of preserving a chunk of land is not just an administrative, legal or even political issue. The sometimes dramatic conflict reflects an underlying difference in values and perceptions of our relationship to the land. And the values are not simply held by individuals. They are reflected in and perpetuated by the institutions we have created to act collectively. We can find in the Bureau of Land Management how the debate over our relationship to the land is defined and pursued."

Human institutions are not natural phenomena. They are created by humans and some contain paradoxes and ambiguities. These ambiguities may be the source of conflict in circumstances where identical evidence is interpreted in different ways.

Human belief systems are mutable but they are also quite resistant to change even in the face of accumulating evidence. In the United States race relations and women's roles in society have changed in the second half of the 20th century to the extent that certain behaviors and attitudes accepted as commonplace in the first half of the century are disapproved and are illegal today. Equal access to places and roles is now an accepted ideal, not yet attained in many circumstances, but with many instances of success. *Justice* and *equality* are underlying moral imperatives driving these movements in particular directions.

Sustainability and ultimately, *survivability of life* are the imperatives underlying the shift from anthropocentric to biocentric views. As far as we know, we alone, among sentient beings, record history, and thus can be aware of long consequences of our actions. As humans gain capacity to control and to destroy we must take responsibility to sustain. We need goals in this regard. Sustaining life processes on earth is an acceptable goal to be placed on the balance scale along with other values.

Defining and managing wilderness by the agencies responsible for public lands is a skirmish in the paradigm shift over the position of humans in nature. Elements of nature must be given standing in human value systems in order that wilderness be recognized in human affairs. This is to be done by defining wilderness as a place apart, imbued with boundaries and rights, where humans behave in prescribed ways as if they were in someone else's home. For wilderness to be a place it must be filled with meaning that large segments of society understand and support, otherwise it will remain a backdrop in human affairs, invisible to policy makers.

Suggested Readings

Fisher, Gerald, (September, 1968) Ambiguity of form: Old and new, *Perception and Psychophysics*, v. 4, no. 3:189-192.

Image, Object, and Illusion, Readings from Scientific American (1974) San Francisco: W. H. Freeman and Company.

Locher, J. L., Editor (1971) *The World of M. C. Escher*, New York: Harry N. Abrams, Inc. Publishers.

Hortgan, John (July 1992) Quantum philosophy, *Scientific American*, v. 267, no. 1:94-101, San Francisco: W. H. Freeman and Company.

Relph, E. (1976), *Place and Placelessness*, London: Pion Limited.

Oelschlaeger, Max (1991) *The Idea of Wilderness*, New Haven: Yale University Press.

Sources

M. C. Escher, "Belvedere" 1958, lithograph.

M. C. Escher, "Study for the Lithograph 'Belvedere'" 1958 pencil. Plate 228, *World of M. C. Escher*

L. S. Penrose and R. Penrose, "Impossible Objects, A Special Type of Visual Illusion." *The British Journal of Psychology*, February, 1958. Contains the impossible triangle–basis for Escher's "waterfall." R. Penrose is, of course, the inventor (later) of Penrose tilings; he postulated the existence of five-fold symmetry thought to be impossible in nature by crystallographers until their recent discovery of five-fold symmetries in quasi-crystals.

Attneave, Fred, (December 1971) "Multistability in perception," *Scientific American*, San Francisco: W. H. Freeman and Company.

Rabbit-Duck, Joseph Jastrow, 1900.

Young girl — Old woman, Edwin G. Boring, 1930, by W. E. Hill, *Puck*, 1915 as "My Wife and My mother-in-law."

Man-Girl, Gerald Fisher, 1967.

Reversible goblet, Edgar Rubin, 1915.

Necker Cube, Louis Albert Necker, Swiss geologist, 1832.

Slave market with apparition of the invisible bust of Voltaire, S. Dali, Dali Museum of Cleveland.

Clare Ginger, doctoral candidate, Urban, Technological and Environmental Planning Program, the University of Michigan. She is working on a dissertation about the meaning of wilderness in the eyes of BLM personnel and spent four summers collecting taped interviews from BLM employees at federal, state, and district levels. She asked them to describe wilderness and their responses to the wilderness mandate. Quotation in the text is from an unpublished document, 2/3/93.

Visual illusion authors

Marvin Lee Minsky, MIT
Robert Leeper, University of Oregon
Julian Hochberg and Virginia Brooks, Cornell University
Alvin G. Goldstein, University of Missouri
Ernst Mach, Austrian physicist and philosopher, (Dover Publ., 1959, trans., C. M. Williams).
Murray Eden, MIT
Leonard Cohen, New York University

[*] John D. Nystuen, Professor of Geography and Urban Planning, College of Architecture and Urban Planning, The University of Michigan, Ann Arbor, Michigan, 48109.