

Ethical Evolution in Design Thinking

“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it does otherwise.”

Aldo Leopold

This is about taking the measure of significant design situations and what goes into that measuring. It is about the way that ethical systems and moral preferences affect design decisions and actions. And it is about how ethical evolution is related to and depends upon a philosophical expansion of design thinking.

It was the late 1970s. I remember our small private plane scoring a perfect field goal through the peaks of the Grand Tetons on our way to Casper, Wyoming. My then partner and I had been invited by a prominent mining company to discuss how they might use the computer mapping expertise we had been developing to upgrade their geographic information systems.

Part of our orientation involved being flown out over the vast uranium domed landscape north of Casper where all of the major oil companies had staked out their claims. The other part involved inspecting the hand-drawn, map overlay system they were using to model and guide their resource planning decisions. The overlaying of mapped data allowed for the visual comparison of multiple single-value data layers of interest but had obvious optical limitations.

The digitizing of data layers and computer modeling that we were doing made such question-answering map generation faster and easier and had no layering limitations. We had, for example, demonstrated to the U.S. Forest Service in Oregon how to digitally combine the mapping of soils, slopes, orientation, vegetation and other key factors to show where harvesting was least harmful to successful forest regeneration.

Every designer has his or her own version of this story. We had come a long way. It was a very large commission. We were highly qualified to do the work. We could use the money.



And then they brought up the growing problem they were confronting with environmentalists and the Endangered Species Act. Some of the richest uranium sites it turned out were also the principle habitat of the Black-footed Ferret, an endangered species.

They averred that our country's need for this important energy resource was obvious and must take precedent. So, would we be willing to help them weasel out a way to do their computer data mapping and mining decision-making modeling that was weighted in favor of uranium-mining interests?

It turned out that it hadn't been a long flight for nothing. The Teton peaks were magnificent, an experience of a lifetime. But most importantly, the trip raised unsettling questions of ethics and morality in complex design situations that wanted deeper exploration and a clearer way to think about them. It had turned from an aesthetic passage into a moral paysage.

Some elementary research revealed that there were three major ethical frameworks operating behind the moral thinking and decision-making of our western culture. Although the terms were often used interchangeably, ethics referred principally to theories or systems of conduct. Morality was essentially applied theory, the application of one or some combination of the three frameworks along with the Abrahamic religious codes (the Decalogue, golden rule etc.) in practice. For most people, who were not moral philosophers, the three systems, utilitarianism, deontology and teleological ethics, were immersed in the language and culture of their thinking and only served unconsciously as criteria for moral consideration.

Utilitarianism, sometimes referred to as "the greatest good for the greatest number," was the ethic underlying resource conservation. Deontology (Greek for duty) emphasized duties, responsibilities, rights and justice, and teleological ethics, the virtuous living of the good life.

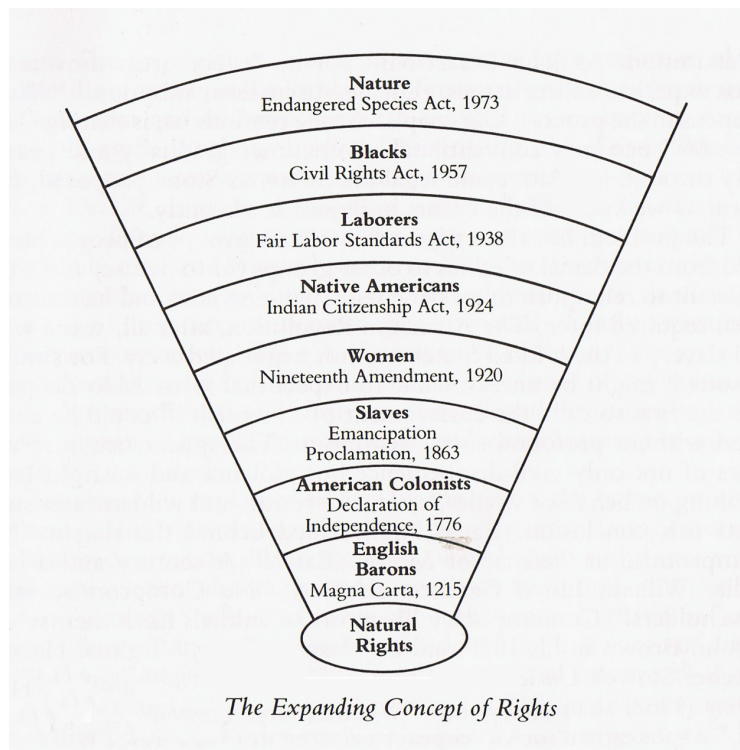
All three frameworks, however, were pointedly if not thoroughly humanistic. As frameworks for human conduct, they emphasized the greatest good for the greatest number of people, the rights of people, and the moral perfection of the person. The virtuous person, for example, was a person of character who built that character by consciously striving to do the right thing. Here I recognized the Greco-Christian "telic voices" of my childhood, "Do it anyway, it builds character."

But what about the rights of the Black-footed Ferret?

In his book, *The Rights of Nature*, Roderick Frazier Nash, portrays the struggle for human rights as an evolving circle of moral consideration. His diagram shows classes deserving moral consideration reaching outward from the white, male,

propertied and privileged, to the gradual, and often-painful social inclusion of, “Slaves; Women; Native Americans; Labors; and Blacks.” Today, as this is written, the human portion of the circle is in the process of widening further to include gay rights. The Supreme Court is about to rule on the right of the LGBTQ community to marry in the U.S. Ireland has just this week approved it.

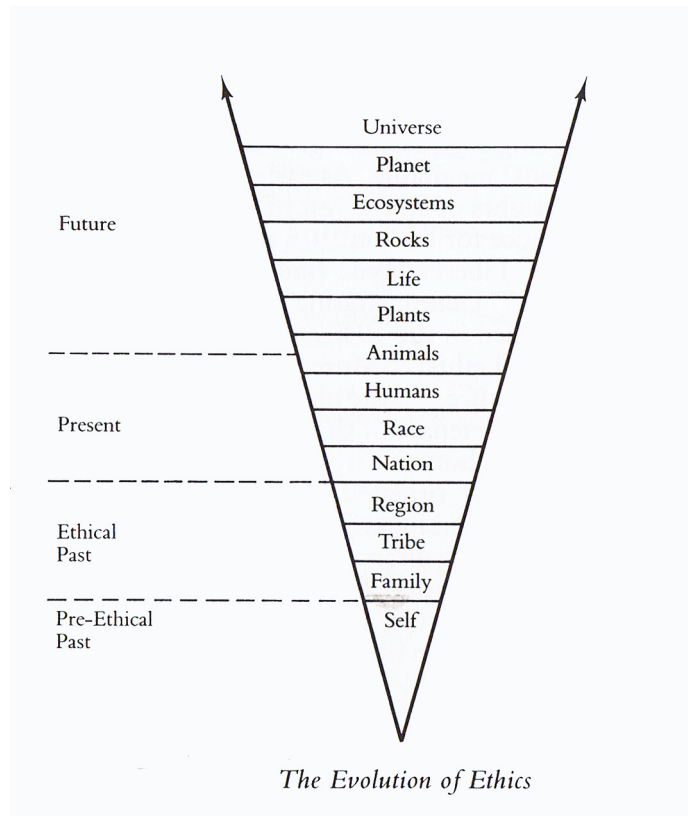
In Nash’s model, an expanding moral awareness finally reaches a tipping point where a form of human conduct becomes socially and politically accepted and codified into law.



But something happened in the 1960s and 1970s that set off an explosion of ecological awareness, ecological thinking, ecological science, and environmental philosophy. And that new philosophy began to push beyond our duties and responsibilities to the human world and question whether animals had rights.

There had been some earlier concern for the welfare and treatment of animals in 19th century Europe. One of the important measures in utilitarian ethics alongside the “greatest good” was the elimination of suffering. Animals, like us, were sentient creatures, Jeremy Bentham had argued, and the criterion was not “do they think?” but “do they suffer?” Did all sentient creatures then deserved moral consideration? And where did one draw the line? There was far less attention paid at that time to animal welfare in a frontier America preoccupied with slavery, a situation whose overtones lasted, as we are well aware, deep into the 20th century.

Animal rights in American, however, began to catch up rapidly with the passing of the Endangered Species Act of 1973.



A spreading ecological awareness had led to the passing of a series of environmental laws in the 1970s that included an Endangered Species Act that conferred rights on some animals and plants and their habitat homes. Nash projected that ecological transformation in thinking to eventually extend ethics into the non-human world of animals, plants, all living organisms and ecosystems.

In this second historical diagram, he plotted the evolution of ethical domains. Ethics began in systems of self-conduct and had been extended to that of the family, tribe and region in the past. People had accepted duties and responsibilities to their nation, race, other humans and some animals in his 1989 present. Nash drew a line estimating the present ethical state half way into a zone of animal ethics to indicate an obviously unfinished process of moral inclusion. The ethical evolution that Charles Darwin had predicted and that Aldo Leopold had said was an ecological necessity was at least underway.

Where had it all begun? And where would it end? With rights extended to crustaceans and insects? With “hospitals for fleas and ticks?” With viral rights?

Looking backward one finds its ethical origins in such pioneers of ecological consciousness as Henry David Thoreau, John Muir, Aldo Leopold, Rachael Carson, Loren Easley, Albert Schweitzer and many others. Each shared personal revelations that spread contagiously to other minds: with Leopold it was the transformation that occurred as he looked into the eyes of the dying she-wolf he had killed in "Thinking Like A Mountain;" with Carson it was her wonder at *The Sea Around Us*, and her realization that an excessive use of pesticides was leading to an awakening into a *Silent Spring*; and for Schweitzer it was the upwelling of a profound "reverence for life," (Ehrfurcht vor dem Leben) that overcame him as he sat surrounded by hippopotami in an African lake. Thoreau labeled slavery and the abuse of nature, ethical myopia, and declared that, "In wildness is the preservation of the world."

All of their revelatory stories remain and resonate over fifty years later, but it is John Muir's moment of insight that leads most directly into environmental philosophy and a framework that ties together environmental ethics and design thinking.

Muir had been on a long and solitary hike into the Canadian forest above Michigan when he came upon a grove filled with white orchids of surpassing beauty. And it suddenly occurred to him that the orchids were magnificent unto themselves and owed nothing to him or his approval.

The Gift of Valuing

It is Holms Rolston III's bio-centric re-conception of value in "Value in Nature and the Nature of Value" that best captures and explains Muir's experience. He wrote that the standard and prevailing philosophical concept of value as strictly a subjective construction was backwards, and to hold this view was to commit the "subjectivist fallacy." Valuing was nature's gift, the manifestation in human consciousness of nature's normative processes. The subjectivist fallacy was to mistake the last chapter of valuing for the whole book or one of its fruits for the whole evolutionary tree.

In valuing, there were three relevant kinds: instrumental value, intrinsic value and systemic value.

Instrumental value is a normative qualitative construction that occurs when humans bind a conscious interest to some thing for some purpose. Instrumental value is of course a staple construction of {interests-in-things} used in describing and resolving the qualitative differences that arise in the transformative situations of designing.

Intrinsic value is the kind of value Muir recognized in his orchid experience. He realized that the plants had a good of their own, that as living organisms they

existed for their own sake. That they had their own purpose or telos, and no human had put that intrinsic value there.

This is where many philosophers part conceptual company because if valuing is only subjective then there can be no such thing as an embedded value that was not ignited and projected by human thought. The conventional path around this philosophical problem had been to change the description from intrinsic value to that of inherent worth. Rolston instead proposed a more comprehensive and bio-centric conception of value.

Value was derived from living systems that were value-able, and that value was passed down through systems of organic life as conservation molecules in the language of DNA and RNA. Animals, plants, and living organisms were axiological systems but not moral systems. They contained and defended their own normative programs that set out frameworks for establishing, managing, and transforming the good of their kind. Value was already present in non-sentient organisms and normative systems before its emergence in sentience.

“Non-sentient organisms were the holders of value; humans were the beholders.” Beholders of a chain of value embedded in organisms embedded in species embedded in ecosystems.

“The species line,” he wrote, “is the vital living system.” It “defends a particular form of life, pursuing a pathway through the world, resisting death (extinction) by regeneration, maintaining a normative identity over time. A species is a discrete biological pattern persisting over time, a collective whole of which its individual organisms are the essential living parts.” Its “genome is a kind of map coding the species; the individual is an instance incarnating it.” Its value resides in its dynamic, persistent and adaptive form as it runs its telic course.

Most significantly, it is the ecosystem, the mother wombs of species, that is the fundamental unit of development and survival. Ecosystems manifest systemic value, a systemic chain of productivity that reaches down to and enables our own special arrival with its unique capacity for value recognition, generation and appreciation.

As one old wag put it, Rolston went out digging in the wild one day and found value in the hole.

Revelation it seems wells up when it will, not when it is summoned. It welled up in the 1960s and 70s and challenged philosophy to remodel old concepts in order to fill unanticipated lacunas of ecological understanding. What began as poetic was backed up by a rapidly developing science and absorbed, because the time was right,

into a culture that was ready to receive it. And a widespread social acceptance of that new thinking transformed it politically into law.

Remarkably the time was right in 1973 for an Endangered Species Act (ESA) that elevated the value of some species and their habitats toward par in human decision-making. What followed had Snail Darters holding up the building of a dam in Tennessee, the protection of Northern Spotted Owl habitat cutting Northwest timber harvests in half, and the afore-mentioned Black-footed Ferret hegemony of national energy planning and policy.

Today the accumulated backlash from these and similar conflicts has built to the point where that ESA stands vulnerable to repeal. The current U.S. Department of the Interior Secretary, Sally Jewell, is walking on eggs regarding the impending listing of the endangered Northern Sage Grouse. Sage Grouse habitat is the vast high desert sagebrush ecosystem that is also home to competing interests from cattle ranching and the exploration for domestic oil and gas. It was this very same habitat that Rachel Carson used as an ecological example over fifty years ago in *Silent Spring*. In another sad sign of the times, the Environmental Protection Agency (EPA) has just recently come under criticism for leading “people to favor a rule aimed at protecting drinking water.”

Twenty-six years after Nash, it would be fair to say that his ethical limit line has evolved only moderately into a post-anthropocentric future. Animal rights groups continue to press for humane treatment. Two contemporary court cases seek the freedom for Great Apes and Chimpanzees that have been kept in captivity for purposes of experimentation on the basis that they are sentient beings that suffer, have their own good and deserve to be free to live out a life of their own.

Any serious public understanding of the philosophical basis for the important environmental legislation of the 1970s, such as the Endangered Species Act, the National Environmental Policy Act (NEPA) and The Clean Water Act (CWA) would seem to have been driven into the background of the public mind by the past decade of endless war. War, raw and unfinished social struggles along with an era of reactionary politics have dominated cultural attention.

If certain powerful and entrenched interests had their way, all bio-centric thinking of the kind that had led to an ESA would be sent off to and securely sequestered in university environmental studies programs where it could do no more economic harm.

Ethical evolution, the evidence suggests, is a slow and uneven process, and can be even slower when pitted against the carbon-hard inertia of the times.

But as the song says, “the times they are a changing.” The melting of the ice caps and the rising of the oceans have re-shifted the focus of attention back onto the human

impact on the natural world. A recent article in the Associated Press entitled, “It’s been a month of extreme weather around the globe,” records,

“Torrential downpours in Texas that have whiplashed the region from drought to flooding. A heat wave that has killed more than 2200 people in India. Record 91 degree readings in Alaska, of all places. A pair of top-of-the-scale typhoons in the Pacific Northwest. And a drought taking hold in the East. ‘Mother Nature just keeps throwing us crazy stuff,’ says Rutgers University climate scientist, Jennifer Francis. ‘It’s just been one thing after another.’”

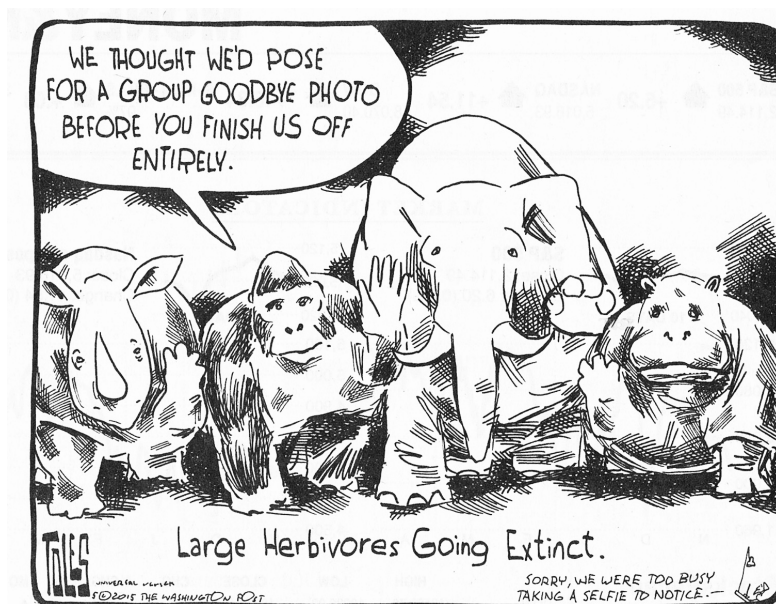
Another headline announces, “Barrier reef not ‘in danger’ but needs care, experts say.” In summary as Shakespeare says,

“When sorrows come, they come not spies. But in battalions.”
Hamlet (Act 4, Scene 5)

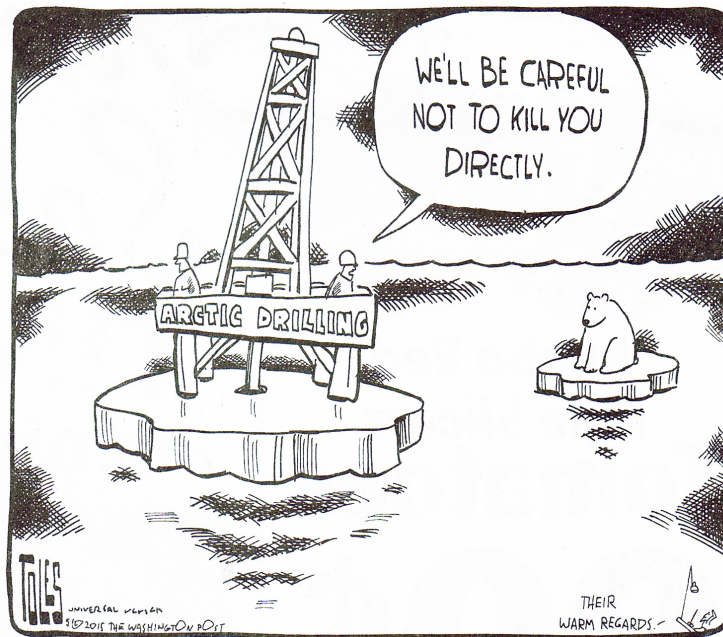
A catalogue of troubles from mass extinctions to the over fishing of the oceans to increasingly disruptive and destructive climate events take up more and more of each day’s daily news. Eustasy used to be a word that no one knew or needed to know.

It’s as though a twenty-first century Earth finding itself in the throws of climate change were trumpeting its distress, summoning forth its poets and its prophets to articulate the plight. Some have heard the call:

Here is an example from Toles of the Washington Post:



And,



And here is the rerun magic of an old magician back to cast his spell:

In *The Invisible Pyramid*, Loren Easley writes of a “Last Magician,” who returns as the embodiment of man’s collective brain to remind him that in his history he had crossed two worlds, and that, as he stands on the “doorway to the stars,”

“He must now enter another and forgotten one, but with the knowledge gained on the pathway to the moon. He must learn that, whatever his powers as a magician, he lies under the spell of a greater and a green enchantment, which try as he will, he can never avoid, no matter how far he travels.

The spell has been laid on him since the beginning of time - the spell of the natural world from which he sprung.”

And here, in poet Gary Snyder’s appetizing reminder,

“We’re all at the table and we are the feast.”

It becomes harder and harder to avoid such deviations into irony as the apocryphal account of the United Council of Churches coming out in favor of the Endangered Species Act, saying they would support saving two of every kind. Much better to hold out hope for the climate change initiatives of the new Pope Francis, whose

namesake had been able to talk a hungry wolf out of eating the people of his village, and to turn again to the Brother Sun, Sister Moon and Mother Earth of St. Francis', beautiful "Canticle of the Creatures (Laudes Creaturarum)."

Ethical Evolution in Designing Thinking

There are differences among philosophers over what "thing" Aldo Leopold was referring to in his famous, "A thing is right when it intends to preserve..." moral dictum. To designers, however, the meaning is clear. "Thing" covers all the normative preferences, choices, decisions, actions, plans, and policies that are intended to resolve qualitative differences in transformative situations. Leopold's moral measure takes us beyond the now familiar measure of sustainability in built environments to the "integrity, stability and beauty of the biotic community," linking such choices to the primary survival unit, eco-systemic health.

Is it not deliciously ironic that to become more fully human means to look to the needs of distant others? But, looking back, that too is an ancient wisdom - an old story. As in: if I am not for my own species, which will be for me? If I am only for my own species, who am I? And if not now, when? (Cf. Hillel the Elder) Is it not also ironic that a deeper human poetics and a deeper meaning reside in an intrinsic value and valuing that some insist do not exist?

Leopold had predicted that needed answers would be found in the concept of value, but not the economic kind, he insisted, in its philosophical meaning. The bio-centric reconceptualization that followed that stood value on its head - from value as only conscious interest paid to value as evolutionarily conferred - has proven his prescience.

A natural reconnection occurs when it becomes understood that conscious valuing is derived from the systemic whole, and that human natural selection might be better understood as the outgrowth of an evolutionary natural selection. It is because this late arriving product of consciousness has such an open-ended set of programmatic instructions compared to other forms of life that it comes burdened with added duties and responsibilities to the natural world.

To Leopold, however, there was an even more important gateway to ethical evolution than the philosophical. We had first to admit to ourselves that, "We are remodeling the Alhambra with a steam shovel and proud of our yardage," and that entry into the biotic community as a plain citizen began with "love, honor and respect."

One of the consequences of a bio-centric valuing for designers and design thinking is a widening of the conception of stakeholders to that of stakeholders in time, some of which have two legs, some of which have four legs or more, and some of which have no legs at all.

Another is the potential for new ethical stances that spring up along a spectrum that now stretches from a humanistic enlightened self-interest to that of a full-out, bio-centric point-of-view. Such an array of moral perspectives, reaching from one end where human interests and values dominate to the other where they would not, opens up unique new in-between opportunities for hybrid moral consideration. An industrial agriculture, for example, is never going to be enthusiastically warranted bio-centrally, but an integrative, eco-humanist stance might foster greater ecological efficiency with respect to water, pesticides and oil, and a kinder, more respectful relationship with animals.

A wider moral bandwidth may yet help to bend a dynamic economic system away from its current path of building such Gilded Age chasms of wealth that it forces those left behind into un-wise, short-term decisions that greatly compromise their own and overall systemic health.

And it might prove convincing to those who would happily dine on spotted-owl or sage grouse stew for dinner with their congressman or cut off West Virginia and Kentucky mountain-tops that those industrial age practices are necessarily past, and that it has become critical, in a time of serious climate change, to leave more of that carbon sequestered in the sea, the forests, and the ground.

On the local level, author Dale Jamieson's new book, *Reason in a Dark Time*, promotes the adoption of a set of teleological "green virtues" that he admits "... will not solve the problem of climate change on their own but will help us to live with meaning and grace in the world that we are creating."

I propose a much more hopeful, aggressive and visionary scenario. It goes like this:

Climate change pressures greatly sharpen the pace of ethical evolution. An expanded design thinking, grounded in revelatory, poetic and storied human experience, is transformed through the development of a bio-centric conception of value into the conscious instrument of the systemic whole and saves the Earth.

Or the more modest version in which the same concepts and considerations are welcomed as fresh and productive new ways of talking about ethical evolution and design thinking.

Jerry Diethelm
Eugene, Oregon
June 1, 2015

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