

A Tale of Two Species: Marginalization of Nature in the Redwood Forest

Will Russell

For every *We* here is a *They*, and in our history as a species we have moved from identities that encompass all living and non-living beings, to increasingly limited identities fractured by expanding patterns of dichotomies. Social constructs that we take for granted such as gender, race, poverty, and religion have created an unprecedented sense of isolation between individuals within modern cultures. The roots of this sense of isolation may be born of a more profound and ancient dichotomy however, that of *Man*¹ and Nature, resulting in a disassociation of humanity from its extended ecological family.

The philosophy that nature, when considered at all, exists for the purpose of providing resources for human beings, is deeply ingrained in the modern western cultural psyche. This philosophy rests on the foundation of a patriarchal hierarchy where *Man* himself is elevated above all, except perhaps God. All other living things are given varying degrees of value based on their relationship to *Man*. A dog, for example, provides companionship and loyalty. A cow provides milk and meat. Plants, fungi, and microbes either provide services to us directly, or through a series of ecological relationships. Generally, species that look more like us, behave more like us, or have intelligence that is recognizable to us, are given relatively elevated positions in the hierarchy. Natural abiotic entities such as mountains, oceans, and rivers, while often providing extraordinary services, lay at the very bottom of the hierarchy, as they are always considered to have no intelligence, no self-awareness, and therefore no intrinsic value. While current mainstream interpretations of religious and scientific texts tend to support this hierarchy,

¹ The gender specific “Man,” as a pseudonym for “Humanity,” is used intentionally in this document to emphasize the patriarchal hierarchy implicit within modern social constructs.

there is no empirical evidence to support it. The theory of evolution, for example, does not provide for a hierarchical arrangement of species, and there is no way to test notion that intelligence, or self-awareness, is limited to our species. Our belief that *We* are superior is based on vanity rather than any body of evidence. In a particularly lucid passage of *Stranger in a Strange Land*, Heinlein wrote:

“Man's self-awareness? Sheer local conceit; ... for there is no way to prove that sperm whales or giant sequoias are not philosophers and poets far exceeding any human merit.”

The hierarchy is reduced to a dichotomy (Man and Nature), by excluding the deity, leaving a lone ruling intelligence surrounded by malleable resources - thus, the objectification of Nature. The character of Nature is seen as alternately beneficent or malicious depending how easily it bends to Man's will, and extraordinary efforts are made to control and subdue Nature's unpredictable character. Unpredictability does not equal randomness however, and with every touch of our hand we simplify the natural world, and thereby reduce its diversity, resilience, and unpredictability (or wildness). Our current paradigm suggests that beyond being subject to Man, Nature *needs* Man to tame her and encourage her to be fruitful. The modern mythology suggests that without our pacifying hand natural systems would become unproductive, derelict, and even dangerous!

A stark example of this unyielding and myopic philosophy can be seen in our relationship with the coast redwood forest, a biome millions of years old, populated by ancient beings, that (by most accounts) *must* be managed – not only for Man's sake, but for its own. The exploitation of nature for economic purposes is the explicit goal of the resource extraction

industry that first entered the redwood forest with the immigration of Anglo-Americans into California, but this philosophy goes well beyond the timber industry, and finds its way into unexpected arenas such as nature conservation, preservation, and forest restoration. What is left of the redwood forest is marginalized as a community, routinely and violently degraded, physically, and is objectified even by many of its greatest admirers. To give some context to the development of the dysfunctional relationship between Man and the redwood forest, a brief history of each of the species is given below:

The Tale of the Humans

Approximately one hundred thousand years ago, in the eastern part of the continent of Africa, there emerged a new species of hominid, currently referred to in the language of science as *Homo sapiens sapiens*. This new species was born into a diverse family of life including other primates, mammals, reptiles, fungi, plants, bacteria, etc., that had existed on Earth for approximately 3.5 billion years. The new species had grown out of a lineage of ancients, originating from the mysterious moment when biotic life was born from the previously abiotic Earth, creating a small but persistent eddy in the growing and pervasive entropy of the universe. This new species found success on the plains of Africa, slowly expanding its population and its range, living in much the same way as the other members of its ecological community. Where resources were available, they were exploited for the health and welfare of the species. When resources were scarce, members of the species suffered. To avoid suffering, individuals banded together collectively using all of the abilities they possessed to find new sources of food, water, and the other materials necessary to life. Over many centuries the species expanded well beyond its East African cradle into adjacent regions, eventually out-competing all of its closest hominid

relatives (*Homo habilis* and *Homo neanderthalensis*), leaving it alone on the Earth as the sole human species. Using its hands, its wits, and the flexibility of a scavengers diet, the human species flourished and expanded into virtually every continent and territory on the Earth. Throughout the period of geographic expansion little changed with regard to survival strategy – areas of resource richness were exploited in such a manner as to provide the greatest benefit to the group, generally without destroying the source of that resource richness.

For most of the history of humanity, humans relied on the bounty of nature- living as what have been referred to as “hunter-gatherers” or “traditional cultures.” Within these cultures rituals, mores, and religions developed to celebrate and protect the source of sustenance (i.e. Nature). A few traditional cultural groups survived into the current millennium (the Sentinelese of the Andaman Islands, the Pirahã people of the Miaci river in the amazon, The Batak of the *Palawan* in the Philippines). Most humans, however, have transitioned to life strategies that seek to accelerate the Earth’s natural productivity, at the expense of natural stochastic and restorative processes.

The traditional way of life, that was successful for ninety percent our species history, began to give way five to ten-thousand years ago as societies based on large-scale agriculture began to develop in Mesopotamia, Egypt, India, and China. Cultural dissociation between humans and nature appears to have taken root during this transition as a result of social stratification and aggressive farming practices. For the first time in history, with the advent of large-scale agriculture, a portion of the human population was able to live without direct, intimate, and daily interaction with the natural world. Classes of kings, priests, soldiers, and merchants were established as a result of food surpluses. Only those delegated to the farming class were required to dirty their hands in the production of food, where in traditional societies

virtually everybody set their hand to this task. In contrast to the honor and appreciation bestowed on those who procured food in traditional societies, those who procured food in the growing agricultural empires were generally overworked, despised, and marginalized. A pattern began to emerge, that continues to this day in modern industrialized societies, in which the closer one's work was to nature, the lower one sat in the social hierarchy. While a successful hunter-gatherer's life work involved the intensive study of natural patterns and processes so that available resources could be utilized, the work of the farmer involves the study of nature for the purposes of manipulation in order to wrest maximum production from the land. Earth, rivers, plants, animals, and even humans were subjugated - leading to a grand social hierarchy with gods and kings at the top, and nature and all that are associated with it resting near the bottom.

The ability of large-scale agriculture to support increasing populations facilitated its continued spread around the globe, and with it - its associated social stratification and implicit hierarchy. Agrarian cultures, however, appear benevolent in regard to nature when contrasted with the capitalist industrial culture that followed. The first factories were built in England in the latter half of the 18th century, and quickly multiplied across the landscape. The industrial revolution had much the same effect on the relationship between humans and nature as agriculture did, but on a grander scale. In contrast to agrarian societies, where the majority of the population worked the land as farmers or serfs in intimate consultation with nature, newly minted factory workers would often spend their short lives in unprecedented disassociation from the natural world. Skies choked with smoke so that the sun and stars were rarely visible, seasons measured by the chilling of the bones rather than by the cycles of the harvest, no soil to engender life other than the night-soil. Not that all inhabitants of industrial societies were factory workers, a more complex hierarchy developed as a result of industrialization - with entrepreneurs,

bankers, politicians, clerks, engineers, and a vast underclass of service personnel all dependent on the turning of the machines. And as people were dependent on the machines, machines were dependent on the people - to feed a ravenous appetite for natural resources! The notion of Nature as a provider remains in modern industrial culture, but not to give of itself in its own time as it did in traditional cultures, and not to be firmly coaxed toward greater fertility as it was in agrarian societies, but to be brutalized in a effort to extract all of its assets as quickly and completely as possible. A chronic amnesia affects human society in the 21st century, as the dissociation from nature in industrial culture is compounded by information technology and virtual realities. Netflix binges and Facebook “friends” have replaced relationships with other living organisms, even those of our own species. The life giving Earth, long viewed in traditional cultures as the highest good, now lays broken, defiled, and despised at the feet of its heedless tormentors ... and those that associate too closely with nature (the farmers, the midwives, the caregivers) are also despised.

Not all members of the human species have been satisfied with our growing dissociation from nature, however. There has been a historical pattern of resistance, and a reassertion of traditional and agrarian values throughout the industrial and post-industrial eras. The Diggers and Levellers challenged social stratification near the beginning of the industrial revolution and called for “agrarian socialism” based on small rural communities. The Arcadians, of the 19th century, called for a return to the small community agrarian values recorded by writers such as Gilbert White in his *Natural History of Selborne*. Transcendentalists such as Emerson and Thoreau followed on the heels of the Romantic Movement in Europe, and new interest emerged in eastern spiritual traditions and earth based pagan belief systems. Rejection of capitalist industrial culture could be seen the Bohemian counterculture of the 1920s, and again by the

counterculture of the 1960s. Reassertion of traditional values in modern times has presented itself in the development of philosophical approaches such as deep ecology and ecofeminism, the formation neo-pagan religions such as Wicca, practical expression such as the back-to-the-land and urban agriculture movements, and the fight for environmental justice with drives at the heart of social hierarchy and disassociation from nature. In recent years, two historic signs of the re-emergence of traditional values can be cited: The election of Evo Morales (the first indigenous president of any Latin American Country) to the presidency of Bolivia and the subsequent passage of the Pachamama (Mother Earth) laws; and, the selection of Jorge Bergoglio (Pope Francis), a liberation theologian and environmentalist to the head of the Catholic Church (historically an extraordinarily conservative organization). Whether these are signs of a profound paradigm shift, or simply of another wave of resistance, remains to be seen. In any case, these waves of resistance provide some hope for the healing of the cultural dissociative pathology that is currently affecting much of the world's human population – that which allows for the perception that humanity is somehow separate from the rest nature.

The end of the story of the human species may be written in a short chapter of regret and failure, of extraordinary power without the wisdom to wield it. Or, there may yet be many chapters left to write. If so, one chapter will certainly be the story of humanity's journey back to its former familial associations – with all living and non-living beings. The story must be left here, however, with a remarkably cunning hominid rapaciously exploiting the gifts of the Earth.

The Tale of the Redwoods

Approximately 130 million years before the appearance any of the hominids, the first members of the genus *Sequoia* emerged in what is now central Asia³. These Jurassic redwoods

were born into a diverse family of life that including a few other conifers, giant ferns, mosses, dinosaurs, fungi, bacteria, etc. The early redwoods, *Sequoia jeholensis*, grew out of an ancient lineage, originating from that original spark of life that had mysteriously touched the planet Earth. The redwoods found success in the warm moist climate that was pervasive at the time, and spread across Pangaea so that by the Cretaceous period they could be found across much of the northern hemisphere - what would later become Europe, Asia, and North America. By the beginning of the Pliocene (5 million years ago), the species *Sequoia sempervirens* was established with specimens identical to the modern species found in the fossil record. Two close relatives persist to this day – *Sequoiaderongiganteum* in the mountains of California, and *Metasequoiaaglyptostroboides* in China. A cooling trend in the Pliocene resulted in a contraction of the range of the species, which is intolerant of frost, so that it was extirpated from Europe and Asia. In North America the species migrated south and west until its range was limited to a narrow foggy strip on the coast of California where relatively warm and moist climatic conditions allow it to persist – a relict of the ancient forest that once touched much of the globe.

Redwoods have been able to survive for so long as a result of the unparalleled resistance and resilience in the face of disturbance. Ordinary ecological disturbances such as fire, flood, disease, and pest attacks do little to discourage the redwoods, and facility for clonal reproduction allows for quick recovery whenever damaged. Its' extraordinary stature (nearly 400 feet) and longevity (upwards of 2,400 years) provide a passive strategy of for out completing other tree species, so that essentially it has no peers within its range. As a result, it sits not so much on the top of a tree hierarchy, but rather as the basis of a thriving ecosystem that provides consistent conditions necessary for the livelihood of a variety of associated species.

Relations Between the Species

At the time of the first meeting between redwoods and humans, the redwoods had long been relegated to their narrow range along the Pacific Coast. The humans were in the midst of their geographic expansion and had recently crossed the land bridge from Asia to North America. Approximately 5000 years ago (about two generations for a redwood) humans first settled near the redwoods. As the redwood forest was dark and damp, and did not provide much in the way of sustenance for humans, there was little interaction between the two species. The human population slowly grew, nourished by the salmon that spawned in the cool shady streams that flowed out of the redwood forest, and interactions became more frequent. Humans occasionally set fires along the perimeter of the forest, which on occasion spread into the forest – but as redwoods were so well adapted to fire they were little affected. Humans were also known, from time to time, to sacrifice a tree by girdling it with a bone knife so that it would eventually die. The dead tree would then be felled to provide humans with materials to build canoes and longhouses. Only a few trees were taken however, and the humans otherwise treated the redwoods with great respect and deference, recognizing them for the ancient and powerful beings that they were.

Following five thousand years of largely peaceful coexistence, new waves of human settlers entered the redwoods. First the Spanish who increased burning around forests, and sacrificed a few local stands to provide materials for building - but still generally left the redwood forest alone, considering it unfit for human habitation. At a point in time, roughly equivalent to the beginning of the industrial revolution in North America, throngs of humans began arriving on the foggy shores that had become the last refuge for this ancient tree species. This new wave of humans had a voracious appetite for resources, and saw redwoods as a means to great power and

riches - not as ancient beings with intrinsic and inalienable value. For the first time in their 5-million year history, *Sequoia sempervirens*, encountered a species that was not only capable of, but seemed intent on, destroying them. In a mere 150-year period, nearly all of the ancient trees were destroyed – leaving only a few stands as curiosities for human visitors. Across the rest of the range young redwoods struggled to reestablish their ancient race, exhibiting extraordinary powers of recovery. But again they were felled, and again, and again...even newly established young sprouts were taken to be milled and turned into products for the thriving industrial culture. Very few humans marked their passing, as trees rested near the bottom of the grand culturally constructed hierarchy – but a few *did* mark it. A few of the humans were reminded by the ancient stands that still stood, that humans had once belonged to a broader community of life. They felt drawn to the wildness of the forests, and set their hearts to protecting what was left of it in direct conflict with the paradigm of superiority that had been developing since humans first abandoned their traditional ways, and turned themselves toward empire building and industrialization.

As part of the preservation movement of the late 19th and early 20th century, redwoods lovers such as Andrew Hill and John Merriam banded together with well-heeled associates to form the Sempervirens Club and the Save-the-Redwoods League; groups whose purpose was to purchase as much of the remaining ancient forest as possible in order to permanently protect it in its natural state. Liquidation of the remaining old-growth out-paced preservation efforts however, and by the end of the 20th century only 3-5 % of the primeval forest remained. In the 1990s, thousands of protestors rallied to save the last unprotected stands, and activists became the target of violent attacks. Handcuffed protestors had pepper spray applied to their eyes, organizers Judi Bari and Darryl Cherney were the victims of a car bomb, and tree-sitter David Chain was killed

when a logger dropped a tree on him – shortly after threatening to drop a tree on him. Battle lines were drawn between those who supported the patriarchal paradigm of *Man over Nature*, and those who believed instinctively in a community of all living things and the intrinsic value of wilderness. The last battle was fought to a compromise in the Headwaters Forest of Humboldt County. Small islands of the once magnificent stand were preserved within a sea of clear-cuts, and the message was spread across the land that the fight for the redwoods was over. There was virtually no more old-growth left in private hands, and therefore nothing left to fight for – or was there?

With the old-growth question settled (for better or worse), the question arose - what was to be done with the second-growth? The community of redwood forest organisms was generally not consulted in this regard, and yet made its intentions known through a robust natural recovery in the short century following the first large-scale timber operations – at least in areas that were protected from, or neglected by loggers. The stumps of the ancient ones had produced a host of clonal daughter trees. Where conditions were favorable these daughters quickly reached great stature⁴ while weaker clones quietly senesced, returning their nutrients to an extant network of roots and mycorrhizal fungi. The cool protective canopy was re-established in a few decades, and shade loving trillium, redwood violets, and banana slugs were able to return, tentatively at first, and then in greater abundance. In the midst of this tremendous recovery, there was widespread concern among managers about the uninhibited and uncontrolled character of natural recovery. A consensus was reached between the logging community, conservation groups, and even some historically uncompromisingly preservationist groups, that these second-growth stands needed a firm hand to guide them. Natural processes were considered too messy and unpredictable. A tough-love approach was developed for bringing order to the situation – and

the chainsaw was the primary disciplinary instrument. Disorderly stands were thinned to proper spacing and to make room for the trees that human wisdom had decreed would be the next dominants. The trees that were thinned might be left on the ground to return nutrients to the soil, or if large enough were often sent to the mill to provide revenue for more “restoration!” The argument for active restoration was compelling as it allowed for continued human influence while giving an outward impression of ecological sensitivity.

The choice to *not manage* is contrary to the paradigm of human supremacy as there is a tacit implication that our assistance is not needed, and in fact may not be beneficial at all. In the redwood forest, empirical data supports this implication. When goals include anything other than the extraction of resources, allowing nature to chart its own course is the most effective and efficient option. The choice *to manage* suggests that there is something wrong with the forest – something that only we can fix. All evidence is to the contrary, however, as redwood forests offer a singular example of a system that has been over-managed, and yet exhibits extraordinary resilience. The hands-off approach requires less cost and effort, is less ecologically damaging, and allows for the reassertion of natural stochastic processes over time. It does not, however, provide revenue, and perhaps more importantly does not jibe with our image of ourselves in relationship to nature.

The Value of Being

To heal the dysfunctional relationship between human and redwoods, we must first recognize the true value of any living being. The current dialectic includes two seeming opposing views for the value of a redwood tree - economic and ecological. The economic argument is straightforward and deeply rooted in the patriarchal paradigm - jobs trump

environmental concerns! The argument supports the dichotomy of Man versus *Nature* by presupposing that creation of jobs and protection of the environment are antithetical. It ignores the reality that sustainable use of resources engenders sustainable economies. In contrast, the cut-and-run philosophy of the majority of 19th and 20th century redwood timber companies tended to destabilize the economy with a pattern of boom and bust.

The ecological arguments is more compelling but also tends to be rooted in the patriarchal paradigm, as the forest is valued for services it can provide; watershed services, carbon sequestration, habitat for commercial species, and the potential for yet discovered pharmaceuticals. Only the ecological arguments related to threatened and endangered species with no commercial value, incline toward the acknowledgement of intrinsic value.

Beyond the economy versus environment dialectic, there is a third argument. The true value of redwoods may be neither economic nor ecological, as both of these values are socially constructed. The true value of redwoods may simply lie in their uniqueness in the family of life - their internal 130 million year story - their existence itself. Intrinsic in some ways relates to the *sacredness* of nature as described by John Muir⁵, but goes beyond it. Sacredness is also a social construct, and implies a human benefit. Perhaps the clearest description of inherent value was given by Arnee Naess and George Sessions in their essay *Basic Principles of Deep Ecology*⁶.

“The well-being and flourishing of human and nonhuman life on Earth have value in themselves. These values are independent of the usefulness of the nonhuman world for human purposes.”

This philosophy that non-human beings have an inherent and inalienable value, is in direct opposition to the patriarchal paradigm. And yet this philosophy has some institutional expression within mainstream industrial culture (i.e. the Endangered Species Act of 1973, and Bolivia's Pachamama Laws of 2010). The existence of these laws, and the philosophies that promoted them, indicate that the patriarchal hierarchy is not universally accepted, and that resistance to it can be effective.

Family Reunion!

The Wixáritaripeople, a traditional culture that survives to this day in the Sierra Madre mountains in Mexico, has a story. In this story a young boy is traveling with his tribe on a pilgrimage to the Sacred Mountain. The child wanders off from the group and finds himself lost in the wilderness. He becomes desperate and afraid as he tries to find his way back to his people, eventually breaking down into tears and crying out – “I will never see my family again.” At the moment when he is ready to give up hope, a spirit guide in the form of a blue deer visits him and tells him he will take him to his family. He follows the deer further into the wilderness to a mountaintop where the wind is howling. The spirit guide says to him - “this is your brother the Wind, you can speak to him whenever you wish by taking a breath.” Then he takes the boy to a serene mountain lake and says - “This is your sister the Water. You can speak to her whenever you like by taking a drink.” Next he is taken to a high hill where he can feel the warmth of the sunlight on his skin. “This is your Father the Sun,” says the spirit guide; his light will guide you throughout your life. Finally, he is taken to meadow full of life where ripe fruit and edible plants abound “This is your mother the Earth” says the blue deer, and the boy falls on his hands and knees to embrace the Earth, clutching the warm soil with his fingers. At the end of the journey,

he is sent back to his tribe and charged with the task of telling the story of what he has seen, so that all of the people will know their true family – and will never need fear being alone again.

There is a cure for the isolation and loneliness created by the dichotomy of *Man* versus *Nature*. We need only expand our *We* to include all other beings – in a grand reunion! With that in mind, allow me to introduce your Sister, Sequoia! She comes from an ancient race of gentle giants known for their beauty, grace, and gentle power. She has been brutalized here for a century and a half, but we can help her to reclaim some of her previous glory by allowing her to express her own wild and unpredictable nature.

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Will Russell is a Professor of Environmental Studies at San Jose State University where he teaches courses on forest ecology and environmental philosophy. He has published widely in the scientific literature on the subject of natural forest recovery following timber harvest.

Selected titles include *Restoration of Coast Redwood (Sequoia sempervirens) Forests Through Natural Recovery*, *Stand development on a 127-year chronosequence of naturally regenerating Sequoia sempervirens (Taxodiaceae) forests*, and *The Influence of Industrial Forest Management Interests on Forest Restoration and Carbon Sequestration Policy and Practice*.

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1. Robert A. Heinlein, *Stranger in a Strange Land* (New York: Putnam and Sons, 1961), 181.
 2. Gilbert White, White, *The natural history of Selbourne* (London, A. Bell, 1851).
 3. Zu-Yu Yang, Jin-Hua Ran, and Xiao-Quan Wang, "Three genome-based phylogeny of Cupressaceae: Further evidence for the evolution of gymnosperms and Southern Hemisphere biogeography," *Molecular phylogenetics and evolution* 64.3 (2012): 452-470.

4. Emanuel Fritz. "Twenty years' growth on a redwood sample plot," *Journal of Forestry* 43.1 (1945): 30-36.
5. John Muir, "The Glacier Meadows" *Scribner's Monthly*, February, 1879.
6. Arne Naess and George Sessions, "Basic principles of deep ecology," *Ecophilosophy* 6.3 (1984): 7.