

The Earth is the womb of all life, a source of safety and nourishment. But as humans binge on the Earth's resources, its ability to perpetually nurture and protect its inhabitants is being threatened. The common misconception that humans are the crowning achievement of evolution attempts to excuse our atrocities, where in fact we are simply one species among Earth's reported 8.7 million (Zimmer 1), and our species is mutually dependent upon all others. Every organism on our planet is interconnected in a colossal web of life, reliant upon one another for survival. The rest of the animal kingdom values this interrelated system and actively contributes to it, yet we humans attempt to alter it, pushing our artificial creations into a naturally efficient world. The more we manipulate and invade, the more we handicap ourselves from learning from the brilliance of nature. The monstrous capabilities of human technology and invasive expansion are palpable, yet merely improving our current ways will not ameliorate the damage; only if we return to our natural archetype and mimic our fellow animals will we be able to heal our home.

Using nature's efficiency as a template for functionality and order is not a novel concept; leaders in the biomimicry field have been imitating natural systems in the industrial world for decades. Biomimicry entails learning an idea from a naturally efficient organism and using that model to solve human problems (Janine Benyus TEDTalk). Since nature has had 3.8 billion years to develop proficient systems, engineers apply its perfected processes to modern technologies and products, bringing the effortless functionality of the natural world into human society and turning wasteful processes into loops of value (Michael Pawlyn TEDTalk). The effectiveness of biomimicry is evident in technological advances globally. In the development of Japan's Shinkansen Bullet Train, the world's fastest train, the train's chief engineer Eiji Nakatsu applied his passion for bird watching to engineering. He mimicked the aerodynamic model of kingfishers' beaks when constructing the front-end of the train, resulting in a quieter train that requires 15% less electricity with a 10% increase in speed (biomimicryinstitute.org). An office complex in Zimbabwe modeled its air conditioning system on the self-cooling mounds of termites, which maintain temperatures in their nest within one degree year-round amidst dramatically fluctuating exterior conditions. The complex's innovative ventilation system uses 90% less energy than standard buildings its size and has saved the building owners over \$3.5 million in air-conditioning costs (biomimicryinstitute.org). Since biomimicry improves infrastructure and products, its fundamental concept of imitating nature should be applied to every facet of human society.

In addition to its admirable physical designs, the natural world also contains notably sophisticated social designs. Honeybees have mastered the art of democracy, and in a time of extreme political division in human society, looking to nature's wise example is the most promising remedy to our social woes. Bees practice a direct democracy in which all members of the hive contribute to the selection of a living location. Scout bees leave the hive to conduct comprehensive analyses of possible new hive locations, searching for spaciousness and protection. Upon their return, scouts perform "waggle dances" that point other bees in the direction of the proposed location. As the scouts dance, other bees join in, until the community reaches a consensus and moves together (Seeley 225). By breaking the idea of democracy down to its core, bees carry it out flawlessly: they identify a diverse set of options, share information about those options, and examine this information to make the best selection. (Seeley 234). Bees are able to execute this form of government effectively because scouts work for the betterment of the group. They do not force individual proposals out of stubbornness or defiance; they vote for the hive location that will best serve the group. Though our government is designed to perform similarly, human representatives suffer from competitive drives and radical party devotion that lead to gridlock and division.

While human flaws lead to political standstills, our competitive election system further inhibits long-term progress. Elected officials are continuously campaigning, thus making political decisions, not sustainable resolutions. In his essay *The Circle is the Way to See*, Joseph Bruchac encourages readers to reject decisions made “in terms of a four-year presidency or a yearly national budget” (Bruchac 818) and focus on the bigger picture. If we simplified our system of government to one free of parties, an artificial human creation, and allowed a more diverse body to make decisions, we could readopt the natural objective of consensus. Because consensus is impossible in today’s volatile political landscape, environmental activist Joanna Macy proposes a less radical modification of our government: a third house of Congress made up of high school seniors who do not vote but discuss the consequences of pending legislation for future generations with representatives and senators (Macy 218). Opening up conversation and providing a space for deep consideration of decisions would result in a more peaceful and more efficient government, and it should happen without a dominant leader.

Allowing an individual to override the decisions, opinions, and needs of the majority results in a society brimming with conflict and inequity. When one party “[invests] in something but then a few individuals receive a much larger return, it’s not a good arrangement” (de Waal quoted by Johnson 9). To combat this disparity that plagues human society, bees make decisions as a community. To the surprise of many, the queen does not play a role in the hive selection; her sole job is to maintain the population of the hive and has no involvement in the work going on in it (Seeley 5). By leaving this critical decision to the majority, bees make choices for the community by the community. This concept is being explored in human society today through the Occupy Wall Street encampments. This leaderless movement may be the future of human government: a natural assumption of power by the masses. The bees’ exemplar of a democracy has been admired for centuries; Shakespeare commended it in 1599: “for so work the honey-bees, creatures that by a rule in nature teach the act of order to a peopled kingdom” (Seeley 218). If we allow ourselves to be taught by these original democratic beings, we can strive for the harmony and stability infused in their contented communities.

To combat the chaos and discord currently overrunning human society and make room for this desired cohesion, we should look to our closest relatives for guidance in our most unstable area: the economy. Primates practice relationship value based organization, in which they acknowledge and understand the concept of interconnected communities, resulting in peace and equilibrium. Capuchin monkeys hold a strong sense of fairness, evident in studies in which two monkeys perform the same task and are rewarded differently. If one monkey is given a grape and another a less desirable piece of cucumber, the second monkey will refuse to perform unless it is rewarded equally. This awareness and practice of fairness is mirrored in human society, explaining our strong reactions to Wall Street executives’ bonuses (Johnson 9). But unlike humans, primates use this sense of fairness to create unity as opposed to divergence. They understand that if groups value each other and treat each other equally, then decision-making, collaborating, and peace making are exponentially easier.

By studying primate reconciliation, scientists observe the connection between the value of relationships and the level of peace among individuals (de Waal 140). Human society began this practice after World War II, when a global economy was established in an effort to reduce international warfare (Johnson 11). This unified market is crucial in maintaining stability worldwide, evident in the aid Europe is currently giving Greece to salvage the entire European and global economy. Though this system has resulted in fewer conflicts and has brought about unity in once divisive areas, there are still severe differences in prosperity and respect throughout the

global community. The concept of a global economy is in keeping with primates' systematic social structures, yet it must be intensified to a point where all countries are so deeply intertwined that they have no choice but to take care of one another, just as primates rely so heavily on one another for survival. If we leave communities, states, and entire countries behind, the global economy will falter and human society will crumble. Only if we value all of our fellow people will we be able to operate a fair, functional society like other primates.

Humans are mistakenly referred to as the 'moral animal' where in fact, we are the least moral of the Earth's animals, allowing fellow humans to starve, engaging in malicious wars, stealing from and defrauding the less fortunate, depriving millions of adequate medical aid, and destroying the land that birthed us. We should focus our attention on the naturally peaceful community surrounding us and mirror our fellow animals' pure moralities. In 1996, a three-year-old boy fell into the gorilla enclosure at the Brookfield Zoo in Illinois. A female gorilla named Binti Jua guarded the defenseless, unconscious boy and gingerly carried him to safety at the enclosure's entrance (Bekoff and Pierce 1), revealing an inner moral compass and the maternal bond shared amongst all of the Earth's beings. Binti Jua also shed light on the corruption of human morality. Though she gained global attention and instant fame, Binti Jua did not aid the boy for recognition or her own self-interest, she did so simply for the benefit of the boy. When most animals act altruistically, it is genuine, whereas humans commonly help others with selfish ulterior motives. Only in the natural world can a kind act be free from conflicted interests and egocentric consciences.

Animals look out for their own kind, evident in the bonds between pack and family members and the anguish of death within animal communities, but they also help animals of other species. Ravens and wolves work together to feed their respective groups; the birds will lead the wolves to a carcass that the wolves will then tear apart, a job unfeasible by the ravens themselves, and then both species will feast (Bekoff and Pierce 56). This system is logical, efficient, and compassionate and demonstrates the cooperation and good intentions embedded in the animal kingdom; traits we humans possess yet rarely practice. Many animals, including humans, have spindle cells in their brains, which "play a role in empathy and understanding the feelings of others." Though we take pride in this attribute and use it as an excuse to raise ourselves above other animals, whales have "three times as many spindle cells compared to humans" (Gray 6). We are, in fact, not the nicest species. But because we have spindle cells, the ability to care for one another, and countless models from the natural world, we should strive to replicate the compassion and empathy in the majority of the world's beings. Before we begin to amend our industrial, political, and economic systems, we must first restore the collective respect that has been abandoned in human society but that is so dominant in other animal communities. Reinstating a strong, global morality may be perhaps the most difficult amendment to make; yet it is the most vital.

Rebuilding our relationship with the natural world is our only hope for continued survival. The Earth raised us, provided us with necessities to survive upon its beautiful terrain, but our greedy and indulgent lifestyles contradict our inborn respect for our creator. We must return to the cyclical ways of our ancestors and rejoin the natural world, following the organic examples of our fellow animals. Our predecessors practiced this mutual respect and understood that "If you see things in terms of circles and cycles, and if you care about the survival of your children, then you begin to engage in common-sense practices" (Elder and Finch 818). The only hope for breathable air, drinkable water, and room to live peacefully in the future lies in our ability to embrace our natural identity as biotic citizens and forfeit our artificial reign as conqueror (Leopold 18).

Because “it’s too late to be a pessimist” (*Home*), we must learn quickly from the original inhabitants of this earth to restore harmony amongst all life. Joanna Macy’s Council of All Beings concludes each workshop with participants speaking for other life forms, offering humans guidance from the perspective of observant beings:

“I, lichen, work slowly, very slowly. Time is my friend. This is what I give you: patience for the long haul and perseverance.

It is a dark time. As deep-diving trout I offer you my fearlessness of the dark.

I, lion, give you my roar, the voice to speak out and be heard.

As rainforest, I offer you my powers to create harmony, enabling many life-forms to live together. Out of this balance and symbiosis new, diverse life can spring.

I am caterpillar. The leaves I eat taste bitter now. But dimly I sense a great change coming. What I offer you, humans, is my willingness to dissolve and transform. I do that without knowing what the end-result will be; so I share with you my courage too” (Macy 205)

If we pool all of the Earth’s beings’ talents and abilities, we can emerge as a compassionate, sustainable species that positively contributes to our home. We must replace our ego-selves with our eco-selves and surrender to the all-powerful Earth; then we may begin to partake in the venerable system that is symbiotic life.

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