

The nature of humans and humans in nature: not seeing the forest for the trees.

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The saying “not seeing the forest for the trees” implies focusing on the details and not seeing the whole picture. This literally can be applied to a forest – we see the trees as separate individuals but fail to comprehend the interactions that create the whole forest. We are beginning to understand that trees within a forest are interconnected through vast networks of fungal mycelia where nutrients are shared among trees, not just with the same species but also among species. Could it be that for the forest ecosystem to persist the trees need to co-operate? Could this line of reasoning also be applied to humans?

Human societies have become divided and fragmented. There has never been as great a gap between rich and developing countries or between the few super-rich and the multitude of poor people. Our economic system, in part, lies behind this division; it sees nature as our exclusive store of resources and exalts competition rather than co-operation as if this is the natural order of things. The way we see ourselves depends on the perspective we take. We can see ourselves as being a part of nature co-operating for the betterment of all or being separate from nature where survival of the fittest reigns supreme and only a few prosper.

The species, *Homo sapiens*, that is us, came about through the process of evolution, just like all other organisms whether bacteria, plants or animals. Evolution, as expounded by Charles Darwin through the process of natural selection, is what has shaped all organisms. Those organisms with characteristics that have a genetic basis which allows them to survive and reproduce are the winners under current conditions, and they pass on these characteristics. Should conditions change, those organisms with characteristics best suited for the new conditions, which came about through random genetic change, will survive and reproduce, and the make-up of the population will change.

We classify groups of more or less identical individuals into species following a system developed by Carl von Linnaeus, the Swedish botanist. This system applies formal names to groups of organisms as if they were cast in stone. However, evolution is a continuous fluid process where, over time, there is modification to some of the characteristics through random genetic change. Thus, many species in the past exist no more, but it would be inaccurate to say that they have all gone extinct since they may exist as two or more distinct species today. Humans and chimpanzees, for example, shared a common ancestor, a single unique species, some 6 million years ago. Along the evolutionary route culminating in us, there were several unique species, but they exist no more. Some of these certainly did go extinct, but there is a continuous line of evolution between our common ancestor with chimpanzees and us. But there is also a continuous line for all present-day species and the original life that emerged from the primordial soup on Earth some three billion years ago. Thus, we share characteristics with other organisms, most with our closest relatives the chimpanzees and least with our most distant relatives, the bacteria. For example, we share 99% genetic similarity with chimpanzees, 90% with cats and more than 50% with bananas. Despite the uniqueness of all species we are made of the same building blocks with just minor differences.

We like to think that it is our brain that separates us from our chimpanzee cousin but brain size is not what set us off on our branch of evolution. The ability to walk on two legs is what made life away from trees a surviving strategy. Walking upright freed the forelimbs so that dexterity with the hands could be selected which allowed for advanced tool making to become refined and then a larger brain

became advantageous. About a hundred and seventy thousand years ago we, *Homo sapiens*, evolved and we have not changed genetically since then. Take a human from back then, and they could achieve any of our abilities today.

We were born from nature, and we live within nature but our ability to make and use sophisticated tools, technology, has meant that we can, to a certain degree, control nature, our environment, to make life more comfortable and safer. We have learned how to avoid or indeed postpone the negative feedbacks from nature when we approach the limit of food or energy availability, or we become endangered due to predators or disease. We develop new sources of energy from burning wood to burning fossil fuels or harnessing nuclear fission. We increase the food supply by husbanding animals and applying fertilizer and pesticides in agriculture. We fight disease by developing antibiotics and a myriad of drugs. The shelters we live in have changed from simple huts to “intelligent” houses with running water, indoor toilets, heating and cooling functions, robot vacuum cleaners, remote surveillance and more, potentially controlled through our smartphones. These technologies are unique to humans. It gives us a sense that nature is no longer necessary. We can control nature, and as such we think we have stepped out of nature. There is a danger in doing this; we begin to believe that we are unassailable. However, all this technology has developed with a growing economy not to mention the ever-increasing human kind. This growth requires massive inputs of energy and natural resources with resulting impact to the environment.

Much has been written about human effects on the environment. A popular way to express a person’s impact is called their ecological footprint. The top ten percent of 188 countries in the world have an ecological footprint ten times greater than the bottom ten percent. A study published by the Globe and Mail shows that the wealthiest ten percent of Canadians have a footprint two and a half times greater than the poorest ten percent. Arguments have been made that if all the world's people had the living standards of people in the so-called west, we would need several more Earths. This is not an option but nor is the ever growing inequality among humans acceptable.

Up until the 17th century people were largely fatalists; they tended to accept their lot in life. However, starting with people like Descartes, Bacon, Locke, and Adam Smith and others this began to change. Bacon wrote about liberating humanity from the natural world and about the importance of objective knowledge. Locke wrote that the social role of the state was to promote the subjugation of nature while Adam Smith wrote about the invisible hand of economics. Slowly emerged a new relationship between humans and the environment. Darwin’s theory of evolution popularly envisioned as survival of the fittest resonated with the idea of the emerging economic system. But the term survival of the fittest was not Darwin’s original phrase; Herbert Spencer, the English liberal political theorist, philosopher, anthropologist, biologist and more, proposed this term to expound parallels between the human economy and the evolution of species.

The model that has evolved to be exceedingly successful is the notion of the market and the investor-owned corporation. What is exalted is the concept of survival of the fittest achieved through competition. Andrew Carnegie, the Pittsburgh steel tycoon, spoke in the late 1800’s about the survival of the fittest as the all-powerful driver of the economy. Corporations merge or outcompete each other thus growing bigger and gaining more control. Largely, their aim is to make as much money for the investors often with little regard of the human and environmental cost. This system has caused a dramatic rise in inequality among humans. The world’s wealthiest one percent now owns about fifty percent of the world’s wealth. This has come about through massive environmental destruction from species extinction, forest loss, erosion, pollution and now global climate change as well as human suffering. However, the linkage between the growing economy and the degradation of the environment is not universally accepted.

Our early *Homo sapiens* ancestors evolved to exist within small social groups. Our survival depended on co-operation within these groups. We hunted and gathered in small groups, we shared food, when someone was sick, we looked after them. For the Inuit and the Senegalese, two very distinct cultures living in dramatically different environments, one of the most important guiding principles is reciprocity. By assisting someone, that person was forever bound to help you. By helping someone, you became part of their “family” regardless of genetic relatedness. Co-operation ensured that all had the basic needs and the group, the society, survived. The interconnections among individuals enhanced group survival.

No doubt our current economic system has brought us to where we are today. Proponents will have all kinds of arguments for the status quo. In the late 1800’s when horses powered transportation there were predictions that by 1950 London would be buried nine feet deep in horse manure. However, cars replaced horse-drawn carts, and now we are “buried” by carbon dioxide. It will not be long into the future that electric cars will have replaced gasoline cars but what will we be “buried” in then? Similarly, we will no doubt find new materials for manufacturing that are less of a burden on the environment, but the real problem is an economy driven by a belief in infinite growth, minimally accounting for environmental externalities; an economy based on wants rather than needs, and the extreme human inequality across the globe not to mention the burgeoning human kind.

It is time to recognize that the concept of “survival of the fittest” will be our demise. Let’s learn from the trees and adopt the notion of co-operation, share the wealth among all humans and accept that we are a part of nature and if our use of what nature provides is not sustainable, neither are we. We must learn that wealth cannot be measured only in terms of money. Happiness and well-being require some money but more importantly, require social cohesion and equality.

We can apply the saying: "not seeing the forest for the trees" to how we see humanity. In economic terms, we see individual humans as mere consumers who are enticed to buy things they do not need with money that they do not have as this is good for the economy, good for corporations. However, we need to see humanity as a cohesive, co-operative collective of humans living within nature sharing resources equitably and sustainably.