

Analysis of Societal Rise & Fall

Sustainable Development:

**Unattainable in a Society Containing Complex Organisms
Capable of Evolving Higher Intelligence?**

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It seems that societies as we know them through history, and as we observe them in the present, are analogous to a downward spiral moving in a tighter and tighter circumference as it goes down. This can also be seen as many cycles completing their circle and starting a new cycle, all while traveling in a greater circle. This cycle of human evolution and societal construction can only be understood if one comprehends the necessities of life, its components, and the laws of physical nature that they must obey. Through this comprehension one can grasp why sustainable development¹ is not probable at any level of societal complexity above a low-grade² “hunter/gatherer” way of life. By understanding these principals one can also begin to foresee why our global capitalist society is nearing its climatic end.

Our universe was creatively organized in a manner to follow two fundamental laws of nature: first law of thermodynamics (energy can not be created or destroyed), and second law of thermodynamics (entropy, every act of energy consumption produces a waste product of heat). These laws must be taken into account, and subconsciously implanted when researching societal change and collapse. These laws inhibit societies from fore-ever expanding, keeping them in a cyclic manner. These laws also rule all components of life.

The basic necessities for there to be life are birth, growth³, reproduction, and death. When these are a humans only necessities, they are truly an animal, living solely as just another organism in the trophic pyramid. As humans began better monopolizing the surrounding environment (using fire and other animals as tools) the social energy pyramid entered into play. As humans began interacting with each other through communication and social structure, social pyramids evolved.

¹ “Sustainable Development” will be defined as living in a self-sustainable manner within your environment

² Low-grade meaning a hunter/gatherer world structure with small, regulated population (i.e. Before beginning of evolution of tribes/chiefdoms)

³ Growth via calorie/nutrient consumption

These “pyramids of life” and their natural cycle can be seen in Figure 1a.⁴ The Energy Pyramid can be explained as the laws of thermodynamics and how they relate to human existence. This concept is in a pyramid form because of entropy. Entropy allows for the use of energy to have a waste product, so it is always getting smaller. Thus, starting at the bottom of the pyramid there is an expansive amount of energy, but as energy is used by dissipative structures (going up the pyramid), it must create waste and diminish the initial amount⁵. The energy pyramid is a strong component of life and society, but due to entropy it unfortunately has to be in a pyramid-limited structure, and not a circle or infinite line.

The “Trophic/Ecology” Pyramid refers to the classic Eltonian Pyramid of organisms and the food chain. Jonathan Swift describes this chain so humorously, “Big fleas have little fleas, Upon their backs to bite ‘em, And little fleas have lesser fleas, And so *ad infinitum*.” This too is a pyramid in that the smallest organisms are at the bottom in abundance, and the carnivore (mostly large) organisms are at the top in a much smaller proportion. This must be in a pyramid structure due to the law of entropy, which dictates that there must be a lot less carnivores at the top of the pyramid, than the animals they are consuming, which are at the bottom.

The “Society” Pyramid portrays the natural structure of all societies to have a large population base on the bottom, and a small leadership/elite ruling at the top. If a society is to have leadership, it must be in this pyramid structure. Masses chose or are chosen a leader, or a few leaders, to rule the masses. There must also be few elite’s with money⁶ at the top of the pyramid to balance out the masses at the bottom, which are not wealthy. The pyramid must be in this form because a society could not support a large class of elite’s, and if all of an organized society were poor masses, elite’s and leaders would eventually rise.

⁴ Figure 1a originated and produced by Scott Randall

⁵ Sunlight seems as an exception to this concept, but we must remember the sun is a star that is burning out.

⁶ Money = Power, so elite’s and leaders are synonymous.

These three pyramids (Energy, Trophic/Ecology, and Society) of organized life move in a cyclic pattern changing over time (Figure 1b)⁷. During the origination of a society, all three pyramids will be stacked/fat on the bottom, with little movement at the top. For example: the society pyramid will not yet have formed many leaders and elite's with a lot of power; the trophic pyramid will be very substantial at the bottom, having not much biomass being disrupted; and the energy pyramid will also be very full at the bottom, having plenty of energy in abundance because entropy has not been taken place on a grand scale. Through the cycle of these pyramids within a single societal organization, these pyramids begin to weaken as: energy is consumed, the trophic pyramid is altered, and society develops. The society collapses when one or all three of these pyramids are totally elongated⁸ (as seen in Figure 1b). This is a state where: energy resources are less abundant or totally scarce; the trophic pyramid has altered so that the biomass at the bottom can not support the carnivores at the top; and society has evolved to a state where the elite's/leaders hold too much of the representative power/money, and are not in touch with the masses.

So history tells us when these collapses have occurred, there can be a small period of dormancy, or simple technological advances⁹ to quickly start back up the cycle of pyramids from the beginning again. So in essence, the cycle of pyramids emerges again, just at a higher, more complex and efficient level. This added complexity and increased efficiency of society due to technological advances in turn decreases the time it takes for the pyramids to complete a cycle. Thus through time, societies have been able to collapse quicker and greater, all due to the wonderful advances of technology increasing our complexity and efficiency. For as humans to advance, is to become closer to societal collapse, which is too close to death of our species.

⁷ Figure 1b originated and produced by Scott Randall

⁸ All three of the pyramids alter in concert, but one may be more disturbed/elongated than the other pyramid.

⁹ Technological advances can be: new production method of calorie intake (i.e. farming style), different organization of societal structure, new energy source.

To better understand this inevitable cycle of pyramids rising and falling, and shifting to a higher complexity level, it can be viewed from a historical context. Figure 2¹⁰ examines the five major world-influencing societies that have existed since Homo sapiens creation¹¹.

The hunter/gatherer way of life was how the first Homo sapiens survived, and this existence extended far longer than any other lifestyle known to our species. This period of earth can be seen as the only true period of sustainable development, and the only situation where sustainable development can be maintained indefinitely. During the closure of this simple existence, the intelligence of the early human was evolving and developing to handle more complex tasks, and thus preparing for an organized society. This lifestyle ended with the evolution of the human brain thus adding complexity to their simple structure of being. This evolution increased intelligence, which formed tools and simple communication which allowed these early humans an advantage over the trophic pyramid. Their complexity and power over certain prey allowed them to exhaust a major food source, thus elongate the trophic pyramid to the point where the hunter/gatherer lifestyle collapsed. During this period many early humans would die of starvation and competition for the gathering of what scarce food was around.

Societal technology soon evolved where chiefdoms and tribes were formed due to the newly advanced thinking and capabilities for such complexity, which led to population pressure for change. A major change also occurred in the means of calorie consumption through the technological breakthrough of a system called horticulture. Humans learned (from communications, or natural instinct) that the hunter/gatherer lifestyle could not sustain with the newly added complexity. To combat this, they began the practice of random agriculture, known as horticulture. This new lifestyle of somewhat controlling the food source, allowed for greater survival of the individual and species. Tack this along with living in a community-like setting

¹⁰ Figure 2 originated and produced by Scott Randall

¹¹ The word "creation" should not be associated with any religious or godly connotation

(forming the roots of a society), and beginning to alter and utilize energy sources. With this there is the formation of all three pyramids...ready to rise and fall.

Some tribes and chiefdoms became an empire, others were engulfed by a foreign empire, or others simply collapsed due to the cycle of the pyramids of life, and an empire evolved. Either way, a new societal structure was formed circa 5,000BC. The grandiose power of an empire could only be successful with the technological innovation of agriculture that evolved from horticulture. Many tribes or individuals felt it easier to stay in one location and practice agriculture, thus also dissolving the chiefdom/horticulture society. But through this decision to revert to agriculture, humans were again placing more complexity on society, thus decreasing efficiency. The rise and fall of numerous empires, thus ending the age of the empires, was mainly due to the squeeze put on the trophic and society pyramid. As the empires and their societies naturally grew, the agricultural land/density size had to follow (conquering many small surrounding villages). This practice could not succeed forever, eventually allowing for the agricultural sector not to be able to sustain the empire and society as a whole. This collapse of many empires, led to the collapse of the empire era. Humans naturally realized that a single large society could not continue growing without some sort of additional food source being available that they did not have to trade or pay for.

This spawned a new greater empire concept known as colonialism. Many European countries were, for a brief period, hegemonies in the system of colonialism. This granted these countries (through technology such as weapons and sailing vessels) access to other foreign free land and free labor to support the hegemony. Thus began the rape of Africa and the Americas by the white Europeans. This is a new second wave¹² of agriculture because it involved slave labor and physically stolen land. This concept was rapidly making the world a more complex system, exhausting many energy sources and decreasing efficiency again even further. This quickly created a large gap in the society pyramid of the periphery countries supporting the hegemony.

The collapse of colonialism is mainly due to this elongated society pyramid, where the periphery revolted and no longer wished to pay tribute to the mother country. From this humans learned that coerced and forced methods could not rule a society.

From this knowledge our current society of capitalism evolved, mirroring colonialism, but without the direct horrors. Through technology and severe complexity, this system allowed a hegemony to rule not with constant force, but economic strength...indirect horrors¹³. Capitalism is also different in that it evolved to taint all countries, all lands, configuring a world society. This allows for a select few elite's at the top of the society pyramid to rule and regulate the energy, trophic, and society pyramids of the world at will. This is what our complexity and evolution has led to...a few select powerful people playing the role of a super-natural being, some could call this god. When only a few individuals have the power to control the dynamics of energy flow, the food chain, balance of nature, and workings of society, it is evident this system must soon change or instantly crumble. The cold nature of capitalism conflicts with the ideas of sustainable development and environmentalism. Capitalism breeds through growth, complexity, and increasing inefficiency...all the exact opposite principles of sustainable development or environmentalism.

Currently the wrath of technological advancement in the past century has added a level of complexity to society never seen before. This complexity and increasing inefficiency puts a huge strain on the already exhausted energy, trophic, and society pyramid. They are as elongated and pulled apart as they have ever been before. The base to these three pyramids are small, and all are on edge of falling. Due to this occurrence we will experience within the next 30 years an energy shortage, food shortage, human produced environmental catastrophe, or societal/economic collapse. Any one of these could lead to an all out collapse of our world society. **Unfortunately** there will be no bifurcation, or actually, **fortunately** there will be no bifurcation. We do not

¹² Noted as Agriculture(2) in Figure 2.

¹³ Noted as Agriculture(3) in Figure 2.

deserve a second chance due to the levels and extremes we have tested our species and home planet. Once capitalism has all out collapsed due to one, or a few, of the above scenarios there will be a horrific period of suffering and conflict. There will be no societal structure, and the means for calorie intake will be scavenging, which can not last long. Homo sapiens will either end there as a species, or complete the true cyclic cycle of pyramids (Figure 2) and revert back to a hunter/gatherer lifestyle.

This would obviously just be the beginning of the end again. For sustainable development to occur for infinity¹⁴, one or both of the following must occur after, or towards the end of the conflict period:

1. Education, through word of mouth, describing the eventual horrors of complexing a society. This education should also stress that the only means of a sustainable society, thus guaranteeing human survival forever and ending the dissipative structure, is the concept of a non-complex hunter/gatherer society. In essence, no technological advances or additions to complexity should be tolerated. This education could come in the form of the modern equivalent of a new age religion, telling the truth of the past, and the only direction for the future. This method for the survival of the human species is not promising though due to one flaw. Humans by nature are selfish, and will put their own concerns and security before the interests of their own species or society. If simply left up to education, a tale, or religion, there is no doubt that that cyclic cycle of pyramids (Figure 2) will revolve again if given a chance. I do not fully believe this evil cycle of societies can end simply with the power of suggestion, or word of mouth.
2. If the human species wishes to survive past the conflict stage and into another hunter/gatherer society (stopping the dissipative structure), we must guarantee now that there will be a species of Homo sapiens similar to the low intelligence level of the first

¹⁴ “Infinity” meaning not evolving into a complex societal structure, ever.

hunter/gatherer Homo sapien. Not only must there be a non-complex Homo sapien, but it must be assured that this organism **can not** evolve higher intelligence to be able to commit its society to complexity. This futuristic fantasy can easily be reality with modern bioengineering. Using our own technology, and complexity, to plummet our species to a prior existence where these evils will never be available to attempt to destroy our species again is altogether genius.

Pyramids of Life



Figure 1a: Three Pyramids of Life

Cycle of Pyramids

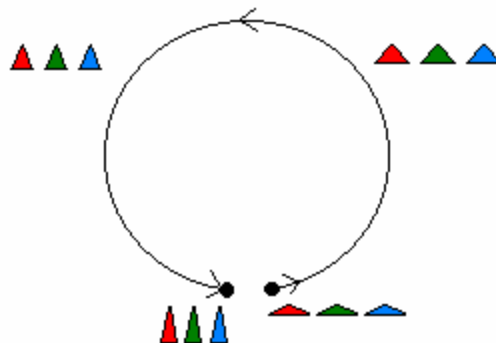


Figure 1b: Cycle of Pyramids of Life

Cyclic Cycle of Pyramids

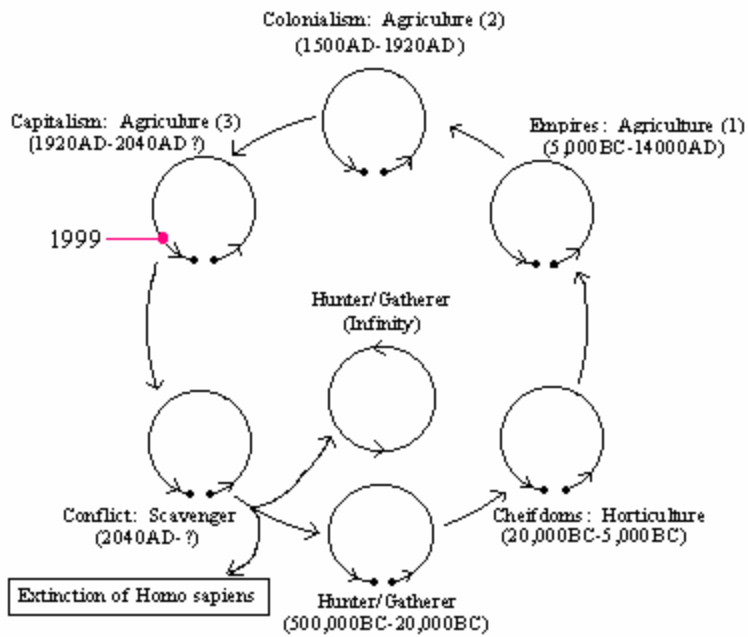


Figure 2: Cyclic Cycle of Pyramids of Life

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