

**An Analogical Model as an Abridged Chapter 3 of BOOK THREE  
American Democracy: The Declaration, Pursuit, and Endangerment**

Part II: Injustice is a Cancer in Society

Chapter Three: **An Analogical Model Using Human Biology**

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Part II: Injustice is a Cancer in Society

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[These excerpts provide an abridged version. Endnotes have been removed.]

Introduction

Injustice is malignancy in society just as cancer is a malignancy in the human body. In both cases the malignancy may spread to other parts of the system producing a transition in the structural form of part of the system. The process by which metastasis transforms the parts of the structure of the system in the case of the human body may be the same as the process in which the malignancy of an injustice in society would transform the structure of society. The same principles apply in that “What is true of part of nature is true of all of nature...

...Thus, as with the case of the spread of the cancer in the human body, the metastasis of injustice as a cancer transforms the form of parts of the structure of society. In both cases the quality of life is affected, and sometimes the affected organism’s life is terminated in its then current form...

...By viewing the societal structure as an organic system akin to the self of the human being with an inner world of its organs and an outer world of its global environment, one may better grasp the evolutionary nature of a society, its attempt at dynamic balance for survival, and the dangers of unproductive disruptions to the system....

The Biological Process of Transformations

The biological process of making transformations operates based on the fundamentals of a nascent discipline called *complexity science*... It deals with complex adaptive systems in which structural change evolves from changes occasioned by external as well as internal forces. The changes may improve the

quality of life or reduce it. The metastasis process is the same, but the term cancer generally applies to potentially unfavorable outcomes, but what is unfavorable depends on whose interests are adversely affected and the perspective of those interests...

...In the case of the human body, it is the interaction of cells transforming the structure. In the case of societies, it is the interaction of people and/or organizations transforming the structure. The natural sciences have made progress in dealing with biological cancer through use of methodology that relies heavily on experimentation, often in organic systems that are not human, but still contribute to a better understanding of the system. However, there are problems in the acceptance of new knowledge, and the progress in the social sciences is even more difficult than in the natural sciences.

Although the fundamental principles of organic systems that apply to the human anatomy apply to the anatomy of society, unfortunately, science has not yet developed to the point where such fundamental principles can be comprehensively identified and applied with the same rigor through experiments in the social sciences as in the natural sciences. However, nascent disciplines such as *complexity science* can provide a framework for which to better view the analogy and provide analyses that lead to improved outcomes.

#### Changing Beliefs

There are some problems in the process of communicating the reasoning in the analogy so as to result in changing beliefs of some successful professionals, not the least of which was alluded to by Max Plank, the Nobel Prize winning theoretical physicist of another century. It was his view that "A scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die and a new generation grows up that is familiar with it."

A 21<sup>st</sup> century statement that deals with the issue of new ideas in science somewhat differently is in a New York Times article of December 29, 2009, "FORTY YEARS' WAR: Old Ideas Spur New Approaches in Cancer Fight," by Gina Kolata. The statement is "**The people who are successful become vested in their ideas.**" That was made by Dr. Mina Bissell, about whose research and ideas the NY Times article was written. It is well worth reading that article on for at least three reasons: (1) It will further one's understanding about the difficulty in getting research beyond the *calif* path...; (2) It will highlight what may be some new principles useful in understanding the spread of injustice as well as cancer; and (3) It will illustrate some aspects of the approach of *complexity science*...

#### Laying a Foundation

In order to provide that explanation, a foundation needs to be laid in explaining society as having an organic structure and that structure being better understood as being a complex adaptive system. Furthermore, the case is made that developing the point that influencing the evolution of the structure may be the most effective method of altering potential outcomes... The model is being sketched out in search of improving the pursuit of liberty and justice for all by reducing the injustice in society that operates as a cancer.

Additionally, the model being used in the development of this chapter goes beyond repairing structure. It includes discussion of what has been called a “*perfective approach*.”... This is done in a way that attempts to avoid the pitfalls alluded to in Isaiah Berlin’s discussion of “the pursuit of the ideal.”

### The Organic Structure of Society

Society as a living organism is heavily dependent on its political-economy for its quality of life as well as its survival. Political-economies need to deal with internal forces that are not conforming to the rules of the system as well as external forces that threaten the survival of the system. It makes a big difference as to what the rules of the system are, and as to how they are enforced...

...Some transitions may not be abrupt as with the development and spread of ideas, but the jolts may ensue as the power of the ideas reaches a crest and comes crashing down on an established structure. They may well start with radical ideas, some of which may enhance the quality of life, but others result in substantial diminution of human welfare.

Societies as organisms evolve in some measure influenced by beliefs. Sometimes attempts to impose beliefs are a gross injustice, a malignancy that permeates a system. Although the ideals of a society may be significantly different from other societies, each is part of a society of societies and has some commonality in values that is essential to avoiding a clash of civilizations, as is with the case of individuals. That is one view of justice. Examining the organic structure of a particular society, especially the tolerance for different beliefs is helpful in understanding the evolution of the society...

### The Immune System

In the parlance of human biology we are dealing with the *immune* system. The classic case that comes to mind is the work of a philosopher advocating a political-economy structure designed to deal with the external threats, among other considerations; it is **Plato’s Republic**...

...The challenge is the emergence of a societal structure that has a balance of liberty and law so as to facilitate each individual having an opportunity to flourish as an individual and as a part of the layers of communities or networks that make up the societal structure... Of particular importance are the economic system and the political system, each of which may be viewed as an organ in the anatomy of society.

### Metabolism and the Nervous System

The human organism operates on information and energy, and so does society. The information for the brain comes in the form of code that is processed to determine action to pursue goals. And, the energy is consumed to produce the action as well as providing storage.

The humans in a political-economy are counterparts to the cells in a human body. Just as the human body has layers of networks of cells, tissues, and organs, so society has layers of networks that provide for the production and distribution of goods and services. Similarly, the political structure has layers of networks that develop and enforce laws at the various levels of community activity. But, of exceptional importance is the network of community structures that establish and enforce the mores of society, especially because it is through these structures that the predominant genes and memes evolve over time...

...The metabolism of a society requires resources to function as a society. The scale of societies for mankind started small with families, clans, and tribes. The division of labor was limited by the scale of the society and its external relationships as with trade with other societies, or really economies. The greater the specialization, the greater the productivity, that is the output of material goods and services relative to inputs of human energy or other resources, capital and land...

...The information flowing through the brain is only part of the story of information to the human body. Additionally, there are human responses that are automatically triggered in accordance with biological evolution, and do not require a reasoning process.

In both human biology and society, the key is in exercising control so as to strive for some semblance of balance, particularly in the wake of a disruption... This is especially of importance as the human body evolves. What is sought is a dynamic balance – a balance during the process of change. In biology it is known as *homeostasis*. This is a discussion of the mind and body where the mind starts with a focus on the *self*. However, it really gets complex when one needs to consider balance between self-interest and the interests of community or society. More will be discussed later, but as a point of departure here are three quotes from *Self Comes to Mind: Constructing the Conscious Brain* by Antonio Damasio...

...As further background to understand human balance biologically as a step to understanding societal balance, here are a few principles involved in reducing the chance of an individual taking a fall while walking...

...The basic idea is that information is critical in control and that learning can enhance the ability to exert impact to foster balance; however, the structure of the system makes a difference, and structures may evolve. These principles are widely applicable with a range that includes investment portfolio management and organizational leadership, in both non-profit organizations as well as for-profit business enterprises.

### Societal Balance

As to including societal balance, consider the policies and structure of the Islamic Empire during its Golden Age....

...Islam missed a great opportunity early in its Golden Age. Had events unfolded differently it would not have taken more than twelve centuries until events in Tunisia may have started another embryo of enlightenment. That embryo, the so-called Arab Spring...

...In order to better understand societal balance, aside from considering evolution in other societies, it helps to better understand the two principal organs of society, the economic system and the political system. They are sometimes appropriately treated as the political-economy because of the interrelationships.

It is the beliefs of people in these political and economic systems, especially those of leadership, formal and informal, that drive the system, although the proportionate strength of the populace has been declining while the strength of the wealthy is on the rise. Some of these beliefs are based on reason as in science that is based on rigor in enhancing the quality of knowledge; some are biased on faith as in religion in that it serves as a guide to how to live. The interactions in the networks of the systems give

rise to a third organic category, the brain of society emerging as the collective mind. The collective mind is discussed in an appendix... The collective mind system goes beyond economics and politics and will be discussed in the context of quality of knowledge. That discussion views the brains of society as organs from which the mind of society emerges.

### The Economy as an Organ

Just as an organ in the human body has a function, so does the economy of a society have a function. The function of the economy is the production and distribution of goods and services. The structure of the economy is a political matter in that the criteria for the organizational structure are politically determined, but what evolves while impacted by the criteria is also impacted by penetration of the immune system that attempts to protect the envisioned structure.

The political options are discussed in the next section. Here, the intent is to explain the operation of market forces as a biological function in whatever political structure the organ operates. That function operates through markets that are emergent properties of the individual transactions.

The political environment may attempt constraints on choices, with varying degrees of success, but the choices are made by individuals and networks of individuals frequently organized as corporate entities. At one extreme is the attempt at a hierarchical control. At the other extreme is an attempt at the so-called free markets.

In modern times the most dramatic illustration of the failure of hierarchical control is with the demise of the former Soviet Union. The most dramatic illustration of what comes close to being a free market is the Great Recession in the early 21<sup>st</sup> century. In both cases, there was an inadequate understanding of how markets work, even under regulation.

In the Soviet Union case, there were at least two great problems...

...In the case of the Great Recession, there were many problems. Among them was a misunderstanding of the capabilities of a market based on individuals' pursuit of self-interest as well as the corrupting influences operating in the system... A better understanding of the limits of the market may be gleaned by an understanding of a bit about the biology of bees and their society.

The short version is that bees pursue their self-interest of body temperature control by flapping their wings to cool down and huddling close to warm-up. When in the hive, this pursuit of self-interest moderates the temperature within the hive....

...The point is that the structure of the system, in the case of the hive, needs to be conducive to the limits of the emergent process. That is why bees seek out locating hives in trees where...

...The organic structure of an economy is impacted by its networks micro to the macro-economy. These networks function to produce the goods and services of the economy and to provide for the distribution. The economic output of the economy is a function of its productivity, its metabolism.

### Productivity

Productivity is output relative to a selected input; the input may be labor, capital, or land. The productivity of labor is affected by the extent of specialization, the use of capital as in equipment, and

the productivity of land as with crops or its location relative to other economic activity. The metabolism is the conversion of resource inputs to the outputs of goods or services, including the generation of energy. The goods are stored up in services. And, the services as well as the energy are inputs to the substance and well-being of people.

In primitive societies the metabolism of the economy as an organ is not very productive, generally a little above subsistence. In advanced economies, the metabolism is very productive producing goods and services in abundance; but the distribution is another issue. The productivity of the metabolic process evolves over time heavily dependent on innovation.

The innovation may be in social technology as well as physical technology. Furthermore, the capital may be in the form of social capital (the shared values in a society) as well as physical capital... Innovation occurs during the evolutionary process which builds on differentiation, selection, and amplification.

The process emerges from self organization in complex adaptive systems, but it is heavily impacted by the constraints of the existing structure, particularly the political system.

#### Distribution

The distribution of the goods and services produced by a society is critical in two interrelated parts of the organic structure. One is as it impacts the productivity of the system; and the other is as a matter of social justice. This interdependence is also an evolutionary phenomenon, and the misunderstanding of how the system works significantly contributes to the injustice in American society that is a cancer in the system.

In primitive societies where hunting of big game for food required team efforts the leader would equitably distribute the benefits from the hunting results. That was justice, and failure to be fair would deter participation. As clans combined to form tribes, the distributions also tended towards social justice. But, when the scale of society increased to nation-states, the market system in the context of the political system provided the structure that changed the balance. The power of those with greatest influence on the structure made the rules that may or may not be seen as fair in the eyes of the populace.

The unfairness is the foundation of revolutions. The disconnect between the will of populace and the will of the governmental administration in Western civilization was transformed through the Age of Enlightenment, possibly starting with the advocacy of the individual's right to think and speak as one thought fit within standards of civility rather than control of church or royalty. For modernity, the American Revolution provided a watershed of the transition of the source of authority from the hierarchy of royalty and church to the citizenry that elected the leadership. It is the organic development to America's current status that is the focus of this discussion, although some global developments are also noted.

#### The Political Structure as an Organ

The political structure into which people have organized starts with economies of scale in which protection from potential enemies may be a prime consideration...

...The prevailing societal structure at that time was kingdoms, some of which grew into empires. They were hierarchical structures, but still had organic characteristics; especially expending energy to survive. But, additionally the political structure of the kingdom, as with other living things being viewed as organic, underwent growth in some dimensions and then declined. The system, if it survived long enough, went through an evolution, and its characteristics changed in accordance with internal forces as well as external forces, sometimes going through a discontinuity upon being conquered but retaining some semblance of its earlier character. As with homeostasis, keeping balance in changing times both from internal forces as well as external forces, is a critical issue for health and survival.

Political structure starts with sovereignty as the source of authority...

...As to the case of modernity, the source of authority being from the individual, it is relatively recent as a major phenomenon. In essence, it started with the Enlightenment in which the transition of source of authority from royalty and church to the individual was recognized. Most structures are some sort of hybrid, but some kings claimed divine right...

As this is being drafted in the summer of 2014 there are great examples of struggles for survival of authority in the Middle East. Some of this is prompted by efforts to gain leadership in the region for the Islamic *umma*, the area's community as a whole. Our focus in this chapter, however, is on the struggle in America for social justice, but we can learn from the events and potential events of the Middle East.

The American Revolution was the watershed in the transition from source of authority for the political structure from the hierarchical arrangements of royalty and church to the people. The people, in a self-organizing structure, united through the colonies to transfer some power to a federal government, but the source remains with the people.

The people are the cells in the organ of the society. Rogue cells in the human body may, through interaction with other cells, cause cancer; a malignancy that unabated can lead to death. By way of contrast, the interactions of cells that operate in a homeostatic fashion enable the tissues, organs, and body to achieve healthy growth. But, as an organic system entropy eventually leads to decline, but the seeds of regeneration may through a next generation go through a similar process.

For humans, the seeds of regeneration contain the genes that impact the characteristics of the life of the next generation. However, the culture in which the individual lives also impacts the characteristics of life. The memes of the culture as counterparts to the genes in the seeds also come to bear.

Human natures do change, but typically very slowly. These human natures impact the interactions of the individuals and may generate a regime change as with The American Revolution. They may also be malignant and injure the health of society. Society, however, typically imposes regulation, both by social pressure as well as by formally enforced law in order to constrain behavior. This is a trade-off between liberty and law in order to gain the strength of the commonality of purpose for which society organizes.

The pursuit of that commonality of purpose may be aided or impeded by the nature of the structure of society. Injustice may occur in the relationships among the individuals in their various networks through which they interact; and courts of law may be used in seeking remedies for those injustices that occur in contravention to the law. Furthermore, those injustices may be viewed as a cancer in society.

But there is another form of cancer in society. It exists in the structure of society that sets the rules for the interaction. Those rules impact the economic sector in its operation to produce and distribute the goods and services in society. They affect liberty of two types.

The obvious type is called *negative liberty*, meaning restraint on behavior. It is a tradeoff by which rights are transferred to a public authority in return for the expected benefits to the community as a whole. Views differ as to the balance in such liberty and law ranging from a socialist, or even communist, pole to a laissez faire society. Somewhere in-between there is a balance that serves as a homeostatic function facilitating the political-economy to adjust to the changing environment, external as well as internal.

Finding such a balance is partially based upon the preferences of the populace, but also upon the political processes that translate those preferences into action. Some of the preferences are built on a lack of understanding of the nature of the system by those in authority. A political structure may be the cause of injustice, not only of the unnecessary denial of liberty of the first variety, negative liberty, but also of the second variety, *positive liberty*.

Positive liberty refers to the individual's ability to flourish, or in the words from the Declaration of Independence relating to the ability to realize "...unalienable Rights, ...[of]... Life, Liberty, and the Pursuit of Happiness." The organizational structure in America has been eroding the positive liberty of the middle class, working folk who are doing what society expects of them but whose ability to fairly share in the distribution of the goods and services of society has been eroded.

The denial of these rights is an injustice and is a cancer of the society. The nascent disciplines developing in the 21<sup>st</sup> century provide the basis of a better understanding of societal evolution. A major turning point in the evolutionary process was the Enlightenment of several centuries ago. Perhaps it is time to pursue a *New Age of Enlightenment* by examining the evolution of societal structures as related to the presence of social justice.

The contemporary explanation for the launching of the Arab Spring relies heavily on the technology that enabled the rapid distribution of information among a network of cell phone users in reaching a tipping point. There was also an element of what they had to say; it related to the street vendor in Tunisia who set himself on fire in protest. Obviously, the vendor was more than distressed by the injustice of his treatment. Beyond that there was an environment in which the tyranny was running roughshod over the people, which is what tyrannies do and sometimes causes people to rebel, even to the tyranny of the majority.

### Human Response

Human response for an individual is impacted by some combination of genes and memes. One may view the genes as the hardwiring of the system, but the hardwiring changes from generation to generation because individuals are born with a blend of genes from two parents, and mutations occur. Thus, while human natures may change with genetic structures, those changes are slow. They are so slow that societies of individual human beings are impacted by genetic structures better suited to eras that existed far in the past.



The situation is a little better with the memes (the counterpart of the genes) integrated from the ideas that permeate a culture. The degree of integration varies by individual, but patterns emerge. So, the human response of an individual is impacted by some blend of nature and nurture. The combination may be called *human nature*, and human natures do change. Or as Paul R. Ehrlich, in his *Human Natures: Genes, Cultures, and the Human Prospect*, writes, "Permanence is often viewed as human nature's key feature; after all, remember, 'you can't change human nature' But, of course we *can* - and we do, all the time. The natures of Americans today are very different from their natures in 1940. Indeed, today's human natures everywhere are diverse products of change, of long genetic and, especially, cultural evolutionary processes." [Page 13.]

Territorial defense and personal security concerns combine to be very powerful forces in generating human response. Invading someone else's personal space can be hazardous to one's health. The same concept is applicable to societies as a whole. The Epicurean view of justice as noted earlier in this chapter is the following: "In that same era of ancient Greek philosophers, another philosopher, Epicurus, viewed justice as a nonaggression pact forged among hostile parties. That would apply to the internal structure of a political-economy as well as externally among sovereign states."

That other philosopher alluded to was Plato. As discussed, Plato's *The Republic* may be viewed as presenting a societal structure envisioned as a protective republic in a hostile neighborhood with primacy of security as a key organizing principle. Furthermore, justice was each person pigeonholed in a meritocracy.

Also, as noted in the opening paragraph of the immediately preceding section, The Political Structure as an Organ, "The political structure into which people have organized starts with economies of scale in which protection from potential enemies may be a prime consideration. The ancient tribes of Israel combined to form a kingdom in order to enhance protection from external threats, an approach intended to enhance what was mentioned as *immunity*."

All of this deals with the concept of justice in one form or another. It is relevant to the biology of society as analogous to human biology, especially as to the American Revolution and to what Joseph J. Ellis calls "*Orchestrating the Second American Revolution, 1783-1789*" used as the subtitle of his book *The Quartet*. Additionally, it is relevant to what is identified as the title of the second chapter of this treatise, "The Declaration Encore Calls for a New Paradigm."

The lack of justice is a part of The Declaration of Independence that "...records the decision on the part of the colonists to Break from Britain...[p. 90]." writes Danielle Allen in her book, *Our Declaration: A Reading of the Declaration of Independence in Defense of Equality*. She states the case of the lack of justice by noting that "In the second paragraph [of the Declaration] they submit facts to witnesses [quoting from the Declaration as follows]:

The history of the present King of Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States. To prove this, let the Facts be submitted to a candid world." [p.93.]

That is what the English colonies in America did; they declared the injustices after having stated that they will "declare the reasons for their actions." Then they declared independence and then the signers concluded with the pledge to "each other our Lives, our Fortunes, and our sacred Honor. [p. 93]"

According to Ellis, in his book *The Quartet*, "Truth be known, nationhood was never a goal of the war for independence, and all the political institutions necessary for a viable American nation-state were thoroughly stigmatized in the most heartfelt convictions of revolutionary ideology. [p. xii]." The key word in the sentence is nationhood. The rest of the paragraph makes the following points;

- The commonality holding them together until 1776 was being part of the British Empire.
- The commonality holding them together after 1776 was the resolve to leave the empire.
- The cord to leave the empire was cut after the war was won.
- It appeared that the new situation could be political rivalries of the new states.

Those bullet points are loosely stated, but it would be well to read the long paragraph directly, and if still in doubt to check the reference in the endnote citing the Bernard Bailyn book, *Ideological Origins of the American Revolution* that discusses the American response to the British policies during the decade before the Declaration. Alternatively, the eleven pages of the "Preface: Pluribus to Unum" plus the three appendices would be worthwhile - indeed on their own merits even if the reader has no doubt.

The salient idea from an organic perspective is that it is not possible to predict outcomes with any confidence for such complex adaptive systems that have a humongous number of paths that could evolve. However, the number of outcomes is far less in variety and some confidence of likelihoods, if any confidence exists, could be enhanced by a better understanding of the system, especially the structure of the system and the patterns that go to form emerging signals and boundaries in complex adaptive systems.

The next chapter is somewhat of an overview of understanding the system. There are three books that would be especially useful. They might be discussed in an endnote, but they are simply identified here as follows:

Axelrod and Cohen. *Harnessing Complexity: Organizational Implications of a Scientific Frontier*;  
John H. Holland. *Signals and Boundaries: Building Blocks for Complex Adaptive Systems.*; and  
Stanley McChrystal et. al. *Team of Teams: New Rules of Engagement for a Complex World.*

Additionally, where available, the docent led tours of the Seldin Library will shed more light.

#### Chapter Four: **Understanding the System**

##### Part III: Making Progress

#### Chapter Five: **Building a New Paradigm**

#### Chapter Six: **Epilogue - Toward a New Age of Enlightenment**