

PART II. BEING FESTIVE WITHIN SPECTACLE ORGANIZATION

Chapter 9

Coevolution Approaches to Spectacle Design

The spectacle is the existing order's uninterrupted discourse about itself, its laudatory monologue. It is the self-portrait of power in the epoch of its totalitarian management of the conditions of existence. The fetishistic, purely objective appearance of spectacular relations conceals the fact that they are relations among men and classes: a second nature with its fatal laws seems to dominate our environment. But the spectacle is not the necessary product of technical development seen as a natural development. The society of the spectacle is on the contrary the form which chooses its own technical content (Debord, 1967: #24).

Thistle Bushes My dad, Daniel Q., lives in Oregon, on the coast and near the California border. He took me on a tour of the ecology and introduced me to a plant species that looks and acts a lot like barbed wire. Seems a Scottish man had brought some exotic plants with him from the old country, to set up thorny hedges around his garden. The thistle bushes have sharp long spins like Mesquite and grow like entangling vines. The exotic species is out-performed the existing flora for niche-space, and proliferating like the plague. It quickly jumped the man's hedges and started to spread across southern Oregon, stopping who knows where, if at all. Neighbors everywhere can no longer walk in the fields, for the thorny vines have grown six feet high and brambles around everything and everyone. Its rate of reproductive growth is phenomenal. The authorities and the neighbors have tried poisons to no avail. One man uses a flame-thrower from Army surplus to burn it out, but it quickly grows back before the season's end. My dad uses a chain saw and long pry bars, but this too is only a temporary resolution. My dad says "people don't realize what happens when you take a species that is natural to one ecology and just plop it into another. Some species just do violence to the new habit because nothing has coevolved with them to keep them in check."

The Monarch Butterfly "Monarch butterflies are noted for their remarkable annual migration, which takes them from central Mexico in the winter

to as far north as Minnesota in the summer. In the summer months, the Midwestern corn belt is home to about half the US population of monarch butterflies.”¹ Genetically engineered corn plants are toxic to insects, but also to monarch butterflies. Monarchs feed on pollen covered milkweed and on the nearby genetically engineered cornfields where the pesticide is genetically spliced into the corn plant. Twenty percent of U.S. corn planted in 1998 was genetically engineered to contain a toxin from the bacterium *Bacillus thuringiensis* (Bt) in its pollen. A study by Dr. Rebecca Goldberg, an Environmental Defense Fund senior scientist, “found that close to half the monarch caterpillars that fed on milkweed leaves dusted with Bt corn pollen died. Surviving caterpillars were about half the size of caterpillars that fed on leaves dusted with pollen from non-engineered corn.”² Genetic engineering is being storied as just another phase in the evolution of the plant, what is being termed as the Second Genesis, humans reengineering the planet and its species, from plants to animals, and humans (Rifkin, 1998). The destruction of the Monarch Butterfly through genetically splicing corn with pesticide is an act of violent production.

Violent Spectacle Pretending Evolution in Organization Theory – In spectacle biotech development is seen as Natural evolution development. People are tinkering with the ecology, amateur scientists introducing not only thorny bushes and genetic/pesticide corn, but also bait fish to pollute streams and lakes, and bio-engineered species to compete with so called “Natural Species.”

The word “evolution” has an important and neglected genealogical history and has changed its meaning from 1801 to 1999 as a series of believed stories about spectacle as natural evolution. Violence is celebrated in the theories of Social Darwinians and others to legitimate the misery conditions of the poor as the rich look on in righteous pride. Spectacle masquerades as Natural evolution. The spectacle pretends organizations evolve in a succession of organic analogies and metaphors masking the shifting and fragmented fashionable, self-

¹ Environmental Defense Fund Newsletter, May 19, 1999. “Genetic Engineering Kills Monarch Butterflies.” <http://www.edf.org/pubs/newsreleases/1999/may/f%5Fmonarch.html>

portraits of power. The evolution analogy morphs techno change into Natural changes; this is all part of the spectacle of production and consumption, to substitute artificial for “real.” To me the uninterrupted discourse of power seeks to mask the role of spectacle in coevolution, making evolution of commerce appear non-artificial, just the results of Darwinian natural selection, of Spencer’s Social Darwinian survival of the fittest races, societies, and business forms.

In Debord’s classic 30,000 word manuscript *Society of the Spectacle* (1967) does not personally use the word “*evolution.*” He does however cite two authors (Bernstein and Lukacs), using this word.³ The more relevant quote, is Lukacs, who is talking about the reification (treating subjective image as an object or universal category) of commodities.

The commodity can only be understood in its undistorted essence when it becomes the universal category of society as a whole. Only in this context does the reification produced by commodity relations assume decisive importance both for the objective evolution of society and for the stance adopted by men towards it. Only then does the commodity become crucial for the subjugation of men's consciousness to the forms in which this reification finds expression (See Debord, Chapter 2, Commodity as Spectacle citing Lukacs’ History and Class Consciousness).

The reification is produced as ARTIFICIAL and socially engineered spectacles of production and consumption become reified into a “just” NATURED process of objective (Lamarckian progressive evolution, Darwinian Natural Selection, or Spencerian Social Darwinism, all explained below). Various natured stories of commercial evolution get substituted and inverted to mask Debord’s expose of an artificial story of spectacle of production and consumption. In stead of the equation, survival of the fittest = commodity accumulation, which = happiness itself, Debord gives us cyber advertising and Biotech nature manufacture f(masked media events) + misery itself on a global scale. Perhaps Debord avoids using the word “evolution” to show how artificial spectacle has supplanted what

² Ibid.

³ “Bernstein, in his Evolutionary Socialism: A Criticism and Affirmation (Die Voraussetzungen des Sozialismus und die Aufgaben der Sozialdemokratie)” (Debord, 1967: #79)

we will call coevolution of humans, nature and technology, making it all seem natural rather than choice making. I will argue that there is evolution, a coevolution of nature, technology, planet, and commerce, in which spectacle is one of the more active players. I shall argue that what has changed is the spectacle-evolution-analogy which in turn changes the scripted behavior, which is changing the so-called Natural environment, and what is taken to be the common sense of coevolution of organization and environment becomes more and more artificiality misspoken as “real.”

This chapter begins with changes in the genealogical meaning (in the Foucauldian sense of genealogical method) of “evolution” in biology so that we can see how these analogies have been applied in mimetic organization scholarship. I shall argue that Social Darwinism, evolution analogy and industrial revolution, both co-occurring in the first half of the 1800s, have been convenient bedfellows. In pretending to be evolution instead of coevolution, few bother to test the limits of the analogy. Table One summarizes changes in evolution theory in biology and lagged-imitation or mimicry in organization writing.

Table One: Mimicry of Organization Studies of Biology uses of Word “Evolution.”

Biology Theories (Publication Dates)	Authors	Key Points of Biological Evolution	Organization Studies Mimicry in Organizational Evolution
1. Lamarckianism 1801	Jeane Baptiste Pierre Antoine de Monet, the Chavalier de Lamarck (1744-1829)	Gradual progressive evolution from simple to complex forms as organism learns which organs are useful/unuseful when environment changes. No extinction.	Henri Fayol (1916) Body Corporate with progress, complexity, and growth analogies; Developmentalism in OD.
2. Social Darwinism or Spencerism 1843 1851 1852a, b 1855	Herbert Spencer	Gradual adaptation of structure, function, and integration in response to changes in environment. Survival of the fittest.	Organizational Life Cycle; Environmental Contingency; Differentiation/Integration of structure and function analogies.
3. Darwinism 1859 1861	Charles Darwin	Gradual and natural selection in the Struggle for Life, to both reproduce and to survive. Random variations do not necessarily lead to progress, retrogression and devolution also occurs.	Population Ecology model of (random) variation-selection- retention analogy.
4. Neo Darwinism 1966 1975 1976	George Williams, John Maynard Smith, & Richard Dawkins	Genealogical reproduction drives economic competition for resources.	Theories focusing on passive gene reproduction. History and narrative get dismissed in the structural/ functionalist adaptation thesis.
5. Punctuated Equilibrium 1972 1977	Niles Eldredge & Steve Gould	What economically worked better and what did not work is an active determinant of functional process.	Long term slowly evolving industries with rapid punctuated changes.
6. Second Genesis 1997	Jeremy Rifkin	In the Biotech Century gene reengineering will let new forms of life loose in our ecosystems.	Organizations are taking out patents on human, plant, and animal genes. OT has a gene- based info network view of organic organizations.
7. Chaos & Complexity 1987 1992	James Gleicks & M. Mitchell Waldrop	The emerging science of order on the edge of chaos.	Boolean algebra is used to assess networks of organizational behavior; popular writers depict organizations as manageable on the edge of chaos.
8. Cyborg Genesis 1994 1997 1998	Andrew Leonard, George Dyson, Kevin Kelly	Technology is evolving into new species of life forms on the Internet called bots. Humans are eager to treat technology as living.	We have anthropomorphized technology as evolving, living, and organic.

Lamarckianism – At the dawn of the 19th century, Jeane Baptiste Pierre Antoine de Monet, the Chavalier de Lamarck (1744-1829) published his views in 1801, well before Charles Darwin’s (1859: 6) *Origin of Species* (See Table One). Darwin (1859) says, “Lamarck was the first man whose conclusions on the

subject excited much attention. This justly celebrated naturalist first published his views in 1801.” Lamarck, a Jesuit, believed as the environment changed, individual invertebrates learned new behaviors to cope with the new environmental circumstances, and that this in turn caused different physical parts (organs or structures) to be more or less developed. More useful organs might grow in size, while unused organs could shrink and atrophy and these characteristics could be passed along to subsequent generations as inheritance. Over time, Lamarck argued, there is greater diversity and specialization that makes for species progress in adaptation. Thus the theory is often called “progressive evolution.” In 1801 he wrote:

. . . time and favorable conditions are the two principal means which nature has employed in giving existence to all her productions. We know that for her time has no limit, and that consequently she always has it at her disposal.

Philosophie Zoologique, published in 1809, most clearly states Lamarck's theories of evolution. His first law is the relative disappearance or development of organs due to their use or disuse. The second law is that these changes are inheritable in the gradual change of organisms as they progressively adapt to their environment. Lamarck viewed evolution as a process of increasing complexity and "perfection" of the species. There was no extinction, competition for survival, and no devolution in his theory. When a characteristic diversity is poorly matched to a habitat and those individuals just evolved into different species, thereby progressively developing the whole species. The Lamarckian theory is linear and progressive, and is still imitated in much of the current writing in OD and OT. There are five aspects to Lamarck's theory of evolution that are still being applied to OT.

1. **The progress myth**. Organizations like organisms are products of Nature, a production of gradual evolution with no devolution. Developmentalism or the “progress myth” is the root of OD theory, endless cycles of progressive evolution.
2. **The complexity myth**. Simple organizations like simple organisms can be fashioned immediately, but complex ones take time to evolve.

The myth is that organizations begin as simple and evolve to complex forms.

3. **The growth myth**. Growth in organizations, like growth in organisms is inherent in all its parts within the whole. The myth is that organizations exhibit life cycle behaviors with maturation stages.
4. **The environmental response myth**. The changed environment of an organization, like the changed environment of an organism, causes the gradual development and diversity of its organs. The response myth is changes in environmental conditions of organizations, as in organisms, cause organizational modification over time.
5. **The contingency myth**. Organizations like organisms are in constant flux, ever undergoing changes in their structural organization and in their parts. The myth is the contingent relation between organization and environmental landscape.

The progress, complexity and growth analogies (myths), of gradual, linear, and progressive growth of organizations from simple to complex whole-part arrangements, are reflected in theories of management since Henri Fayol (1916). Fayol saw the organic analogy of a corporation as the “body corporate” with branching limbs and twigs (a metaphor that Darwin also used but at a species, Tree of Life level of analysis).

For at least thirty years, organizational theory (OT) has taught a false view, that organizations evolve just like trees, animals, or other species. I think it began when Henri Fayol (1916: 70) based his fourteen commandment-principles of management and his five basic managerial functions on an organic metaphor of the firm, the spectacle of production morphed with the commandments of nature. He saw employees and managers as the “constituent elements of the body corporate” and visualized his division of labor principle as an element in organic evolution. Fayol reasoned that as organizations grew, organs appeared in the body corporate. He held the same is true of societies: “As society grows, so new organs develop destined to replace the single one performing all functions in the primitive state” (1916: 20). The principle, “unity of direction” meant “a body with two heads is in the social as in the animal sphere a monster, and has difficulty in surviving” (1916: 25). “Like division of work, centralization

belongs to the natural order” (p. 33). Fayol repeatedly conflates nature and organization to leave OT with the organic legacy. He gives the example of planning based on “plant life” where “in the realm of growth there spring from the single trunk branches which spread out and grow leaves, and the sap brings life to all branches, even the slenderest twigs, just as higher authority transmits activity right down to the lowest and farther extremities and farthest extremities of the body corporate” (p. 58). His application of plant and animal metaphor is the basis of his text and the cornerstone for contemporary population ecology theory:

Man in the body corporate plays a role like that of the cell in the animal, single cell in the case of the one-man business, thousandth or millionth part of the body corporate in the large-scale enterprise” (1916: 58).

Men were cells, departments were functional organs, and the organization was the organic whole, evolving, varying, selecting, and retaining progressively more perfected (progressive) forms. Organs included shareholders, boards of director, department managers, superintendents, foremen, and operatives. “The nervous system in particular bears close comparison with the managerial function” (p. 59). As organization became legitimated in a narrative of natural evolution, a crisis in OT has surfaced. What evolves is due to the agency of natural laws of selection and evolutionary progress and not to the agency of social production and consumption, by evolution, and not by the agency of spectacle design.

“Evolution” in organization theory has sustained its tamer, Lamarckian definition, the *life cycle stages* from birth to maturation of an organism. The word “development” in OD is root in a Lamarckian philosophy of developmentalism, a word that makes such easy sense, a common sense belief about evolution combined with commercial progress. Both fields (OT and OD) would discover and forget and then remember organic analogy because it was more preoccupied with crafting the mechanistic analogy. The adaptive agent was the manager reading all the internal and external variables and deciding strategic response. There were various Weberian species (entrepreneurial ad-ventures could evolve into bureaucracy, feudal or charismatic form-choices). Though after

Weber, only the bureaucratic branch of the tree of organizational life forms got much taxonomic study. The environment (understood as techno-change and other organizations) of organization became noticeable in the 1960s with Burns and Stalker (1961), Woodward (1961), Katz and Kahn (1966), Thompson (1967), Lawrence and Lorsch (1967), and Emery and Trist (1966).

In the contingency theory of management writing since the 1960s, evolution meant the *adaptation* of structure, function, technology, and size to the environment (complexity and uncertainty). As the General Electric motto states “progress is our most important product.” The problem to be explained was why did bureaucracies (those mechanistic forms) keep surviving, even when the environment became more complex and uncertain? Alternatively, Burns and Stalker (1961) observed more lack of fit, than fit, more mechanistic beasts in complex environments, and more organic ones in stable environments (where mechanistic structures would be more efficient). The fitness hypothesis was so overwhelming popular, that to this day, even though empirical studies have, in the main, not found the predicted fit-patterns, the hypothesis is taken to be gospel.

My theory is that since machines and factories were popular technologies, that Taylor’s (1911) machine analogy became more popular than Fayol’s (1916) organic analogy. People wanted to imitate machines not trees. Since the 1960s much of the writing is a never-ending debate between the machine/organ analogies, and attempts to develop growth models of how simple mechanistic forms can grow into the more complex organic forms. Few have stopped to question the silliness of this theory of semantic illusions, or to look at the five century debate in philosophy about the machine philosophies of Locke, Hume, Newton and the reemerging organic philosophy (See Carolyn Merchant, etc.).

In the late 1970s and 1980s evolution meant the *variation-selection-retention* of a population of organizations, rather than a single organization’s fit to its environment. Though some organizations were thought to be generalist and others specialists, affecting their survival or extinction. The idea of population ecology is that each generation there is a distribution of random variations in a

population of organizations, and sensible populations in succeeding generations imitate (select) successful survival strategies (retention).

In the decade of the 90s, punctuated equilibrium (explained below) has become a fashionable explanation to explain why whole populations of organizations change their form and function quite rapidly, not gradually as in the earlier models of evolution. The gradual evolution, punctuated by briefer periods of rapid change was a good fit with Kuhnian paradigm theory.

Now, at the dawn of the new millenium, it is not organizations or populations of organizations that adapt, but technologies, given our current language of Chaos Theory and Complexity Theory as well as Biotech and Cyber Tech engineering. Knowledge organization crossed with theories of self-organization and complexity is the most recent evolutionary form of organization. Even technological innovations incorporated into organizations viewed as self-organizing knowledge, cyber organizations, are seen as the latest in Natural evolution, thereby hiding spectacle in evolution analogy. This is an ironic spectacle, since little is written in the voluminous cyber-knowledge-learning organization genre, about the organizational impact upon thistle bushes and Monarch butterflies. My hypothesis is pretending to be Natural evolution, draws critical attention away from the impact of spectacles of production and consumption on the Monarch butterflies. Lamarckian evolution is quite different from the etymology of Social Darwinian evolution.

Social Darwinism (or Spencerism) – Herbert Spencer linked the evolution of capitalism to the progress of society and race. Concerning the “progress of humanity,” early-Spencer (1852) wrote:

Here, too, appliances of one era serve as embellishments to the next. Equally in institutions, creeds, customs, and superstitions, we may trace this evolution of beauty out of what was once purely utilitarian.

Darwin (1859: 164) was aware of the earlier work of Herbert Spencer (1820-1903), who advocated what we now call “Social Darwinism.” Seven years before the Origin of Species, Spencer (1852) wrote *the Developmental Hypothesis*, a theory of evolution stressing inheritance of acquired characteristics. Spencer, not

Darwin coined the phrase “survival of the fittest” based on Lamarck’s views (Caudill, 1997). Spencer jealously considered himself Darwin’s rival as father of evolutionary theory. Spencer argued in scores of publications that evolution gradually progresses toward equilibrium where individual characteristics and habitat circumstances are perfectly adapted. This has also been the backbone of contingency theories, as discussed above. Spencer contended that society and living organisms are alike, each evolving to a better life through differentiation, competitive-heterogeneity, and segregation.

It must be emphasized that Spencer was intellectually active during the height of Britain’s industrial revolution, during a time of Victorian thinking. And, I think that OT has adopted this ideological position without much challenge. Spencer’s philosophy of social evolution is still quite popular in Business teaching, since he contended that government restrictions on commerce interfered with the natural evolution of societal progress. Spencer believed that the progress of society depended on keeping government from interfering with free enterprise. Free enterprise was self-steering (a misreading of Smith’s invisible hand thesis). Social Darwinism was popular among the Victorians of his day, as an apologetic for the inequities of wealth accumulation and visible poverty. “Free competition, he argued, was a natural law of economics and the best guarantor of a community’s well-being” (Caudill, 1997: 67). The poor deserved their poverty and interfering would only breed more of the poor race.

Social Darwinism also explained several anomalies about progress, the destitute families, high illiteracy, worker-exploitation, and the poor that were everywhere. The divisions of rich and poor, the differential rewards of monopoly, the virtues of civility to a civilization, all these ideals could be legitimated by the Social Darwinism narrative. His earliest writings (1851) protested all welfare laws for the poor, public education, and any intrusion of government into industry. The gradual progress of society depended upon not interfering in the Natural and purifying struggle of the survival of the fittest. Charity was allowable, but not government institutions that would perpetuate poor people who might breed and over-populate. The poor were not fit to produce and would die the death of

extinction. Survival of the fittest was part of the Natural purification of the human race. Spencer equated the poor and needy in society as the "unfit" strata of evolution.

Spencer's student Sumner argued "competition was as much a Natural Law as gravity" (Caudill, 1997: 68). Like Malthus, Spencer and Sumner argued that giving relief to the poor only aggravates poverty by encouraging them to breed (Caudill, 1997: 68). While Darwin and Spencer both saw a role for cooperation among organisms, subsequent interpreters would focus exclusively on competition. Spencer and Sumner favored very slow evolution, especially when it came to changes in government regulation. "Like Spencer, Sumner" for example "declared that customs, including laws and regulations, had to evolve slowly in order to be effective" (Caudill, 1997: 74). When government tampers with the Natural Laws of self-steering commerce, especially making quick changes, the results are disastrous to commerce and to society.

The concept of fitness applied to all levels, from individuals, organizations, populations of organizations, and to societies. To Spencer and Sumner, survival of the fittest was a more important concept than Darwin's natural selection. Biology has been divided on this question ever since. The survival of the fittest for Sumner, in particular, even meant grinding man against man in violent, bloody labor struggle and wars, was dictated by Natural Law (Caudill, 1997: 75). When two civilized societies go to war, the weaker perishes. This gave legitimacy to the view that Europeans and Americans, as English speakers were the rightful inheritors of world domination, because "they had been the most enterprising people in the fifteenth and sixteenth centuries" (Caudill, 1997: 76).

Social Darwinism is not only survival of the fittest, it is survival of the richest. "Millionaires" Sumner said, "are a product of natural selection, acting on the whole body of men to pick out those who can meet the requirement of certain work to be done" (Caudill, 1997: 76). In 1889 Andrew Carnegie wrote an article endorsing Social Darwinism by showing how it linked individualism, social divisions, and economic competition. Carnegie's article is a marvelous defense of the status quo of robber barons. The competition of millionaires against the

poor in the race to accumulate capital is for Spencer and Carnegie a fundamental Law of Nature in the purifying Struggle of Survival. Millionaires were the products of thousands of years of commerce-evolution and poverty was a part of the progressive social system fodder of any society. This simple story of evolution legitimated the robber baron mindset of Victorian capitalism as just common sense, and continues to serve as an apology to this day.

I think that Social Darwinism is still quite popular in Business Colleges. It is a political economy disguised in Natural evolution, an alternative to Marxist and critical theory options. It is a story that explains societal problems in the accumulation of capital as the Natural struggle of the fittest. Social Darwinism explains relative wealth and health inequality as the working out of Natural Laws, not as a consequence of the Marxian spectacle of production and consumption fetish. Social Darwinism also adds the valuable aura of science to the story. It defends expanding global markets in an unregulated economy. It legitimates the relationship of government's role to commerce, to protect commerce (colonization) abroad from interference. It legitimates the same exploitation of labor and monopoly behavior that Spencer and Sumner observed in the 1800s that we are observing in the late 1900s in sweatshops around the globe. "The quest for empire" writes Caudill (2007: 83) is "a natural function of a growing civilization and its economy, rather than as an effort to elevate an inferior race."

The conquest of nature is also legitimated in Social Darwinism. Nature is the female against whom man struggles for survival by mastering material accumulation of her bosom. As Sumner put it "It is legitimate to think of Nature as a hard mistress against whom we are maintaining the struggle for existence" (Caudill, 1997: 75). Despite obvious limits to earth resources, Laissez-faire is legitimated in the story of evolutionary production and consumption that elevates societal progress. Promoting a less fit commerce drags down a society and violates Natural Law.

In organization theory (OT), Social Darwinism modifies the Lamarckian analogy by adding extinction as a life cycle stage. The new popular analogy with organisms is that organization progresses from birth, maturation and with Social

Darwinism to death or extinction. Spencer's chief concern, like OT's major focus, is with evolutionary changes in social structures and social institutions.

Structural functional models of organization have their roots in Social Darwinian theory. Spencer used the organic analogy to assert that as social organizations change and grow in size and complexity, they differentiate structure and function as well as integrate accumulated increases in structural differentiation. System growth for Spencer is a process of cycles of differentiation and integration, from the assemblage of like parts to heterogeneous parts integrated into the increasingly complex whole. Indeed much of OT rests on Spencer's organic analogy where he posited four major process-concepts that are still exceedingly popular today and treated as the common sense real understanding of organizations (Growth, Differentiation, Integration, and Adaptation). He posits four phases of institutional development.

1. Growth from simple homogeneity to heterogeneous complexity of parts (people can readily perform one another's functions)
2. Differentiation of regulatory (centers focused on outside threats of enemies and prey) and operative, then distributive functions including the segregation and multiplication of effects (physiological division of labor in which people perform very different functions).
3. Integration/Institutionalization (of matter, dissipation of motion) through stages one and two into greater peace and harmony of the units as they regulate their mutual dependency (central regulators focus on internal cohesion of parts) on each other and the whole (mutual dependency of unlike parts of the whole).
4. Adaptation increases from stages one to four as this growing heterogeneity learns to coherently adapt to the environment.

As the evolution analogy is applied, both organisms and organizations begin as incoherent homogeneity, get increasingly complex with progressively differentiating structure and functions and learn to be coherent heterogeneity. This is consistent with Lamarckian progressive evolution. This differentiation,

however, according to Spencer, leads to demands for centralization (integration) which leads in turn to stage three and four demands for decentralization (another integration).

Parallels to Greiner's (1972) evolution and revolution organization growth stage model are obvious. "The term *evolution* is used to describe prolonged periods of growth where no major upheaval occurs in organization practices ... The term *revolution* is used to describe those periods of substantial turmoil in organization life" Greiner, 1972). The link of evolution to progress is direct and linear in Greiner's model. Greiner argues that "as a company progresses through developmental phases, each evolutionary period creates its own revolution." Growth at one stage produces a crisis (leadership, autonomy, control, red tape, etc.) that demands associated revolutionary response patterns (creativity, direction, delegation, coordination, and collaboration). The universal law model of organizational progress through evolution has been popular for the past century of OD and OT writing. Like Spencer (1851), Greiner (1972) argues that "centralized practices eventually lead to demands for decentralization."

Spencer's theory (though hardly referenced) is still the underpinning (though not referenced) for today's life cycle theories of organization, the differentiation-integration model, organization culture viewed as differentiation-integration-fragmentation, clan-bureaucracy-market theory, structural-functional-adaptation, and of course the ever popular managerial contingency theory. The key issue here is that if the Spencer model is out of favor in Biology because of numerous flaws in applying the analogy to human society, then should we also raise questions about it in organization theory?

Contingency theory asserts by organic analogy, the adaptation of structure and function to environmental circumstance, and is still the dominant perspective in management, OT, OB, and OD writing. Spencer contended that with size, organizations get progressively more differentiated in functional specialization, which is what contingency theory has argued for four decades. The writing about organizational clans and tribes is also rooted (though not referenced) in Spencer. Spencer believed that social organisms evolve from simple homogenous

structures to complex heterogeneous structures, from simple families to compound families or clans, to double compound families organized into tribes, and to treble compounds, tribes integrated into nations. Spencer believed societies could be typed into one of three evolutionary and sequentially developmental stages (simple, compound, doubly compound, and trebly compound). I think all of these organizational theories need to be challenged.

The analogy of organic progress to organization has its limits. First, that parts differentiate to serve the progressive good of the whole organization and the progressive good of the whole is the progressive good of the individual. It is always a problem determining just which aspects of form and which aspects of changing environment are contingent links. Stable forms are supposed to inhabit stable landscapes. There is a problem in assuming an environment is stable when every organization is in interaction with hundreds of suppliers, customers, and competitors; not to mention the constant changes in personnel, technologies, location, advertising, and other particulars. Long-term persistence of bureaucratic forms in environments that have shifted dramatically is a continuing anomaly.

Second the theory that the fittest CEOs, fittest organizations, and fittest populations of organizations survive, while the weakest do not is a tautology. In the survival of the fittest analogy, it is by definition the “fittest” who always survive (Booher, 1998: 31). The evolution of organizations is an act of reification, taking a metaphoric relation between living-species and a social-collective and treating them as equivalent. The tautology that only the best adapted survives does not get challenged. The reification of spectacle into the objectivity of natural law conceals the human agents of power. The reification finds expression in treating technology, social structure, consumption, and production as evolving species instead of as spectacles of power. If an organization has a new program, a new vision statement, a new technology, a new reengineering, it is said to be evolving adaptively. MBAs who learn the new skills are “well adapted” to survive as the fittest applicants.

Third, the link between organization and organism is metaphysical with many/most characteristics not transferable. Most notably, organizations are not alive; they are spectacles of social engineering. As Lamarck observed in the early 1800s, "...no body can have life if its constituent parts are not cellular tissue or are not formed by cellular tissue." In addition, parts of an organism are in direct physical contact, while parts of an organization, as Spencer noted, are in informational contact. Organizations do not have skin or membranes.

Fourth, there is a teleology or progress imported into OT from Social Darwin theory. In the unilinear theory of progress of evolution, organizations' progress through stages of developmental evolution, just as human organisms evolve from infants to mature adults. While Spencer leaned toward progress teleology, he also held that some societies and institutions progress, while other degrade and retrogress. Some achieve complex differentiation and integration because they locate in more complex habitats, others are located in simpler habitats and do not exhibit more advanced stages of complexity (e.g. 3 and 4 above). In short, in some of his writing, Spencer did not see structural/functional adaptation of social institutional complexity as linear.

Fifth, organization theory views the environment as increasingly more complex and organizations as increasingly more complex across the global expanse of late capitalism. However, organizations and societies are for Spencer at differing stages of evolution, depending upon their habitat differences all over the globe. Again, Spencer saw variation in terms of retrogression and stagnation of organization adaptation to varied habitats, some getting more diverse, others becoming more simple forms of enterprise and some headed for bankruptcy.

Sixth, Spencer wrote, "When once you begin to interfere with the order of Nature there is no knowing where the result will end" (Coser, 1977: 99). He did not anticipate the ways of messing with Nature that we are now experiencing in the Thistle Bushes and Monarch Butterflies. Darwin did.

Darwinism – On the voyage of the Beagle (1831-1836), Charles Darwin observed organic adaptation in habitats ranging from jungle to grassland to mountain terrain occurred through natural selection. The title of Darwin's (1959)

classic text was "On the Origin of Species by Means of Natural Selection, or the Preservation of Favored Races in the Struggle for Life." Like Lamarck and Spencer, Darwin argued that species types are not static, but are in continuous flux, states of quite slow and gradual change. Darwin's theory proposes a different mechanism of species adaptation than Lamarck's progressive evolution, but the result is the same: changes in structures and functions of organisms are caused by changes in their environment. Darwin also argued, unlike Lamarck and Spencer, that there were random variations that did not necessarily perfect the species on an endless trek of progress. This is an aspect of evolution that has not been popular in organization writing.

Darwin's alternative theory (natural selection) to explain Lamarck's inherited traits, was that species struggled to exist, believing like Spencer that the more fit survived to produce more off spring than the less fit. Spencer's doctrine of the survival of the fittest is, like Darwin's, derived from Malthus (1798) who concluded that war and famine were inevitable as the human population grew more rapidly than available resources. Darwin's natural selection mechanism is summarized in his own words from *The Origin of Species* (1859: 108):

Can it, then, be thought improbable, seeing that variations useful to man have undoubtedly occurred, that other variations useful in some way to each being in the great and complex battle of life, should sometimes occur in the course of thousands of generations? If such do occur, can we doubt (remembering that many more individuals are born than can possibly survive) that individuals having any advantage, however slight, over others, would have the best chance of surviving and of procreating their kind? On the other hand, we may feel sure that any variation in the least degree injurious would be rigidly destroyed. This preservation of favourable variations and the rejection of injurious variations, I call Natural Selection.

Species produce random, not planned or divine variations, and in their overpopulation and their struggle for finite resources, some random-variant characteristic allows some to reproduce more than others (Darwin, 1859: 87-88). Besides, Malthus, sss concludes that Darwin's theory was influenced by his

acknowledged study of Adam Smith (Nunoz-Rubio, 1999). Adam Smith, stated that:

"Every species of animals naturally multiplies in proportion to the means of subsistence, and no species can ever multiply beyond it. But in civilized society it is only among the inferior ranks of people that the scantiness of subsistence can set limits to the further multiplication of all the human species; and it can do so in no other way by destroying a great part of the children which their fruitful marriage produce."

Smith summarizes Nunoz-Rubio (1999) "exerted a great influence over Darwin through the principle of division of labor, the fundamental element from which Smith is able to explain his idea of functioning of economy and society. Smith points out that this division of labor has as a consequence an increase in the quantity of labor and hence an enormous increase both in the quantity and the variety of the commodities produced."

So what is the problem? First, the mechanism incites the religious who prefer to see a divine planner, rather than the brutishness of spectacularly unnatural selection. Second, in OT, the problem is that most organization scholars subscribe to a Lamarckianism, pre-Darwinian variety of evolutionary theory. A rational CEO reads the environment, and decides (with or without participation) how to adapt structure, function, size, technology, or advertising. There is no room here for random variation. Organization evolution is often described as natural selection, but it is more accurately Lamarckian, a rational progressive evolution, wrought by a god-like CEO. Interestingly enough, in the twentieth century, Lamarckian evolution was the official scientific dogma of the former Soviet Union, which denounced Darwin's theories as devices of capitalist oppression. Ironically, Marx dedicates *Das Kapital* to Darwin believing he had discovered the motor of class struggle and the hope of eventual overthrow of the bourgeoisie capitalist by the proletariat-worker class.

Third, Darwin based his theory of survival of the fittest is based on Malthus' statements about exponential population growth outstripping food supply which only grew in linear accumulation. It is also based, as Darwin acknowledges on Spencer's theories of Social Darwinism. Rosenhead (1999)

argues therefore that “Darwin’s adoption of the survival of the fittest as a key element of his theory was actually based on a philosophy which derived from and was particularly relevant to its era – that of the most brutal and self-confident phase of industrial capitalism.” In short the work of Adam Smith (but not his theory of Moral Sentiments, as we shall explore). The relevance to organization studies is that we are applying a metaphoric contrast back to Victorian apologetics for survival of the richest, while the poor were starved and exploited.

Here too there are limits to the analogy. First, the mechanism of natural selection for Darwin takes millions of years, where populations of organizations, have not been acting in concert for more than a few hundred years. Population ecology assumes the variation-selection-retention happens in decades. Second, we do not observe populations struggling to reproduce subsequent generations. Third, the construct “population” is problematic, since there is no common habitat, in which they co-locate. Rather, habitats have mixes of members of many populations competing for resources across many locations. Fourth, the habitat is imaginary. That is, Darwin spoke about Natural habitats, but the population ecology adapts to an imagined habitat (no reference to water, air, trees, or butterflies, even though populations of organizations impact the Natural world). Fifth, Darwin used organic metaphors to describe organic life, and OT is using metaphors of metaphors of his metaphors in our mimetic evolutionary theory of organizations. I will consider two metaphors: the struggle for existence, and the tree of life. Darwin (1859: 90) introduces the “Struggle for Existence,” (Darwin’s caps), as a metaphoric analogy:

I should premise that I use the term Struggle for Existence in a large and metaphorical sense, including dependence of one being on another, and including (which is more important) not only the life of the individual, but success in leaving progeny.

We are treating metaphor as real in OT, OB, and OD usage. There is a double meaning preserved in the Darwinian analogy usage that, as we shall explore in punctuated equilibrium, remains a debate in genetic biology and paleontology. In the next two stories (dogs and plant seeds), Darwin introduces the double meaning to Struggle for Existence, as follows:

Two canine animals in a time of dearth may be truly said to struggle with each other which shall get food and live. But a plant on the edge of a desert is said to struggle for life against the drought, though more properly it should be said to be dependent on the moisture. A plant which annually produces a thousand seeds, of which on an average only one comes to maturity, may be more truly said to struggle with the plants of the same and other kinds which already clothe the ground.

The first story is a Spencerian economic struggle to secure the food to live, the second is a genetic struggle to reproduce offspring in a crowded habitat. These two meanings, economic and genetic, not only cause confusion in biology, but in organization studies. Do populations of organizations compete for resources, or do they compete with other different species to reproduce?

The evolution of species is based upon a second metaphor, the “tree of life” metaphor (chapter 4), with green budding twigs representing new species, twigs branching in all directions competing for sun light and survival, only a few surviving to grow into great branches, the unselected decaying and dropping to the ground. This metaphor (that we see so vividly applied in Fayol, 1916) pursues the competition to reproduce side of the Struggle for Life metaphor. Here is how Darwin (1859: 170-171) unpacks his Tree of Life simile.

The affinities of all the beings of the same class have sometimes been represented by a great tree. I believe this simile largely speaks the truth. The green and budding twigs may represent existing species; and those produced during each former year may represent the long succession of extinct species. At each period of growth all the growing twigs have tried to branch out on all sides, and to overtop and kill the surrounding twigs and branches, in the same manner as species and groups of species have tried to overmaster other species in the great battle for life. The limbs divided into great branches, and these into lesser and lesser branches, were themselves once, when the tree was small, budding twigs; and this connexion of the former and present buds by ramifying branches may well represent the classification of all extinct and living species in groups subordinate to groups. Of the many twigs which flourished when the tree was a mere bush, only two or three, now grown into great branches, yet survive and bear all the other branches; so with the species which

lived during long-past geological periods, very few now have living and modified descendants. From the first growth of the tree, many a limb and branch has decayed and dropped off; and these lost branches of various sizes may represent those whole orders, families, and genera which have now no living representatives, and which are known to us only from having been found in a fossil state. As we here and there see a thin straggling branch springing from a fork low down in a tree, and which by some chance has been favoured and is still alive on its summit, so we occasionally see an animal like the *Ornithorhynchus* or *Lepidosiren*, which in some small degree connects by its affinities two large branches of life, and which has apparently been saved from fatal competition by having inhabited a protected station. As buds give rise by growth to fresh buds, and these, if vigorous, branch out and overtop on all sides many a feebler branch, so by generation I believe it has been with the great Tree of Life, which fills with its dead and broken branches the crust of the earth, and covers the surface with its ever branching and beautiful ramifications.

In management and organization texts, there are frequent references to typologies of organization forms: machine bureaucracies, service bureaucracies, matrix organizations, and organic and mechanistic forms. The tree of life appears to be a trope discourse that has not quite worked out its genetic branching. Most taxonomies begin with Weber, move quickly to Burns and Stalker, equate Fayol with Taylor, and try to use Mintzberg's types as the more appropriate grouping. Burns and Stalker's (1961) "Switch Gear" story is their example of the missing link, the combination of mechanistic and organic species in one firm. Research into the evolution of generic form types (and hybrids) has not proved the classification particularly useful. Most texts argue there are post-bureaucratic forms, but bureaucracy seems to predominate in both stable and unstable environments. However, this misextension of Darwinian metaphors is not the big crisis.

There is a current crisis and disarray in OT because there are several competing worldviews of the proper role of evolution (Lamarck, Spencer, and Darwin) in organization thinking. First, there are reforms to Darwin's theory, we

can call Neo-Darwinism and there is the problems posed directly to Darwin's theory by punctuated equilibrium, chaos, complexity and other more recent uses of the word "evolution."

Neo-Darwinism – Neo-Darwinists are defenders of the Darwinian tradition. Eldredge (1995) uses an alternative term "Ultra Darwinism" to refer to a branch of Neo-Darwinism that privileges the realm of genealogical reproduction, organisms competing to leave their seeds. Exemplars of Neo-Darwinian theory include George Williams (1966), John Maynard Smith (1975), and Richard Dawkins (1976). George Williams in *Natural Selection* (1966) argues that natural selection is an adequate explanation of individual organismic design and there is no need to look at what is good for the group. Everything can be explained in a simple story of "what is good for the individual." It is all just a question of reproductive inheritance of what worked best for individuals. "Selection had become a matter of an organism outcompeting its rivals in leaving relatively more copies of its genes to the next generation" (Eldredge, 1995: 37). Williams redefined Darwin's concept of "fitness: by economic survival to be just one side of the dual-metaphor, just reproduction (see above). McDonald's corporation is the most fit, because it leaves more copies of its arches (genes) to the next generation of burger establishments. Population genetics, as we shall, explore is an exceedingly popular recent image of "evolution." This fits Williams' (1966) argument that McDonalds is not replicating golden arch copies to benefit the species – burger maker, but it doing it to benefit McDonalds. As Williams (1966) puts it, the "goals of an individuals reproduction is ... to maximize the representation of its own germ plasma, relative to that of others in the same population" (as cited in Eldredge, 1995: 38). McDonald's reproduction of golden arches is the sign of its economic success, its hydra-like self-mating and self-reproduction.

Maynard Smith (1975) preferred gradual evolution to theories of stasis (no change punctuated by rapid spurts of evolution). It might be argued, by analogy, that even McDonalds has gradually shifted its model across habitats. McDonalds adapts its menu to different countries and even different regions within countries.

The arches and layout of McDonalds come in standard packages, but this too varies by nation and region. As with other late capitalism species, McDonalds straddles opposing forces, standardization and adaptation to fragmented markets. McDonalds it could be argued is more stasis than adaptively fragmenting, doing only minor tinkering to its menu and building design, experimenting with McRibs, McPizza, veggie salads, Cagan burgers, the proposed veggie burger, etc. but these are minor oscillations around the mean. Some Zig and Zag oscillations, rather than gradual evolution to capture (and create) shifts in consumer tastes and to adjust to local taste preferences. Calling such changes Natural Selection seems to me to be a stretch of the evolution-analogy.

Dawkin's (1976) text, *The Selfish Gene*, argues that the info instructions for building an organism are more important than the system of matter-energy transfer itself. By analogy, an organization like McDonalds exists only to spread its golden arches (genetic info at McDonalds' University), and McDonalds is a very selfish gene, grazing cattle to meat-gorging customers to continue to exist. Though it is unfashionable these days to refer to McDonalds as a machine, it fits Eldredge's (1995: 40) definition of a matter-energy transfer machine catching and devouring cattle to pass along its genes. To paraphrase Eldredge, if and only if McDonalds' economic life is going well can it afford to reproduce more arches. In sum, from a Neo-Darwinian view, what is good for McDonald's is not for the good of the fast food restaurant species nor is it good for American or global economy, it is just good for McDonalds.

Eldredge and Gould (1972, Gould & Eldredge, 1977) see problems with Neo-Darwinists slavish adherence to Darwinian metaphors of reproductive evolution, given their own preference for punctuated equilibrium and stasis. Reproductive success is thought by Neo-Darwinists to drive the economic competition for resources, but for Eldredge and Gould it is just the reverse (see punctuated equilibrium). For Eldredge and Gould (Eldredge, 1995: 196) "evolution is history, not the gene-centered motor of and for the imagined constant change...."

McDonalds is analogous to a species, it has an historical beginning, middle, and someday an end. McDonalds is a discrete historical entity. It has outlasted other fast food species, such as Burger Queen. Its birth rate is faster than Burger King, Arby's, TGIF, Starbuck's, and Pizza Hut. Fifty or sixty years is not much in evolutionary time, but these species seem to be surviving. The rhetorical usage of species is an attractive way to view organizational change. It posits rapid and constant change in species design in the face of fairly static persistence of design zigzags. The fast food species has gained a foothold in a variety of cityscapes. Over the next century, some new species will, no doubt, out reproduce them all, driving these fledgling species into extinction.

In OT, population ecology posits that competition for reproductive success drives the economic system of resource exchange and resource competition. I think it is important to point out that OT studies structure and function adaptation, the anatomical mechanism of evolution, while dismissing historical explanation (see punctuated evolution and catastrophe below). Adaptation is just the moment-by-moment life of the reproducing organization or population of organizations. But, as we shall see the dismissal of history to enact a genealogical explanation of the firm-reproduction is not as easily supported by the punctuated equilibrium theory of evolution. As Eldredge (1997: 202) summarizes:

Genealogical systems are passive reflectors of what worked and what didn't in the economic arena. In this, I am articulating in modern terms an essentially deeply traditional view of evolution as history. Just history.

Again, I stress that my point in going through this genealogy of the term "evolution" is to argue that in Biology there is a move afoot to recognize the historical nature of systems.

Defining organizations as reproduction in populations' (species) selecting more progressive variations for adaptive imitation and mimicry is the basis of the theory of population ecology in organization studies. I make the claim that this can be equally well explained as fashionable imitation of spectacle instead of evolution. Population ecology does not make us more aware of the spectacle

nature of production and consumption history. To me, it is just historical spectacle, not progressive, Darwinian, Social Darwinian, or Ultra Darwinian evolution. Population ecology substitutes a biological reproductive narrative for an economic explanation. While there are similarities, organization populations are significantly different than insect or animal populations in sociobiology.

The illusion of contrasting animal or insect social systems with human social system misses some key differences. In human systems, both males and females lead economic lives, but their reproductive lives (except for dating and mating) is usually outside of work organizations. In a bee colony, there is a division of reproductive and economic tasks in the same social system. This is not the case in human collectives. We continue to view organizations as reproductive cooperatives, when they are clearly economic cooperatives. We might argue that in agrarian communities, kin family reproduction and labor reproduction are contiguous. Reproducing offspring helped to rear succeeding brood farm hands. And, it could be argued that siblings and grand parents helped to watch the young ones while the older children and able adults toiled in the fields. I could even argue that the evolution of a fraternity is reproductive system combined with an economic system. The *raison d'être* of a fraternity from an Ultra Darwinian analogy, would be to recruit initiates for the perpetuation of the next generation of the fraternity, to insure its generational-reproductive success. The economic life of the fraternity is in raising funds to pay for the recruitment and training of new pledge classes, and to reward graduating classes with banquets. But, the limits of the evolution analogy are pushed when we move from the farm to the factory or the bureaucracy. Here the reproductive and economic realms separate. Even the non-social animal says Eldredge (1995: 212) "lead largely separate economic and reproductive lives."

Neo-Darwinism confuses what is good for the species with what works best for the individual organism. Differential reproduction works best for the species, but it is economic survival that works best for the individual (Eldredge, 1995). There are material episodes of mass diversification, merger, consolidation

and extinction in populations of organizations. Seeing this as an act of evolution is an act of ecopomorphism, ascribing Natural process to human spectacle.

Punctuated Equilibrium – One shift that has happened in the last decade is to move from a gradual evolution worldview (Lamarck, Spencer, Darwin and Ultra-Darwin) to a punctuated equilibrium view of evolution. Work by Steven Gould and his student Niles Eldredge since 1972 has pursued the punctuated evolution thesis that looks at macro-evolutionary shifts in species selection, variation, and retention. Booher (1998: xi) summarizes “the new biology paradigms credit *catastrophe*, not millions of years of mutation slowly accumulating through natural selection as history’s agent of evolution.” I think the stories of Monarch Butterflies and Thistle Bushes are catastrophic. Eldredge uses the analogy of environment as an historical ledger keeper. Catastrophes also include oil spills, fires, floods, and other human and Natural events. As Gould puts it (as cited in Booher, 1998: 63):

Within continuously sampled lineages, one rarely finds the gradual morphological trends predicted by Darwinian evolution; rather change occurs with the sudden appearance of new well-differentiated species.

PE argued that observable long periods of stasis of historically situated entities are not explainable by theories of within-population processes (Eldredge, 1995: 125). Gould and Eldredge argued strongly that you had to look at the economics of the ecosystems and the social systems. They questioned the rhetoric of Darwinists and Neo-Darwinists and waved a red flag at their metaphors of evolution. I think this rhetorical red flag also throws into question our own story of organizational evolution, as a generation-by-generation process of gradual adaptation through mechanisms of reproduction and social-natural selection.

The new global economy is not business-as-usual; it is the work of spectacle induced catastrophe. For the PE writers, we are witnesses to the forces of the macroevolution of industrial capitalism into late global capitalism. “The very term *macroevolution* is enough to make an Ultra-Darwinist snarl” (Eldredge, 1995: 126). The Neo-Darwinists prefer stories of generation by

generation selection-mediated change within populations. Which is more important to evolution, macro or microevolutionary processes. Even the appearance of McDonalds, Pizza Hut and Burger King in the past sixty years demands a detailed theoretical explanation as to why? Why did they suddenly emerge? Why are they still here? Why are they everywhere? The fast food industry consists of thousands of species-restaurants. Their emergence did not spell the extinction of non-fast food restaurant-species. The proliferation of McDonalds has altered our mainstream eating habits. Still to call fast food the origin of a new species seems to me to stretch the evolution analogy. There is I admit differential reproductive success of McDonalds within the population of fast food chains. There has been a shakeout of competing fast food chains.

From a PE perspective, McDonalds, after some tinkering and ownership shifts, emerged fully evolved. It did not move gradually from simple to complex form, nor did it become the survival of the fittest, or the simple product of natural selection. McDonalds proliferated through spectacles of production and consumption, not by evolution, except in the rhetorical sense of a convenient story of its history. There is a change in McDonalds in the last few decades, there are more of them, and there advertising is everywhere visible. I am not saying that McDonalds has not changed significantly through time, it has. But, I do not think it, like most organization histories, demonstrates evolutionary change. Spectacle trends are a tricky subject and I can see that a simple story of evolution is an inviting rhetoric. The development of McDonalds is not a linear evolution, a move from McDonalds A to McDonalds B, C, and on to Z. There are at any one time period, since the first decade of its proliferation, quite a few different McDonalds, some in malls, some with drive up windows, others in college cafeterias and airport terminals. There is a trend toward more fragmented types of McDonalds. To call this an evolutionary pattern seems a distortion. I would rather see McDonalds as a long-term series of fragmented spectacles, not a linear progressive evolution with sub-species reproductive variation branches. The imitation of other chains of McDonalds' prolific success is not a gene pool it

is the spectacle of fashion imitation. Organization writing has not given up on evolution analogy. And it was slow to catch on to the new PE model of evolution.

All during that 1970s and 1980s, the PE paradigm shift in Biology (and Paleontology and other fields) was ignored by us, as almost every OB, OT, and OD text and journal article continued to claim that organizations evolve structure and function assemblages as a result of natural selection as organizations adapt to their respective environments.

The implication of PE is to recognize organizations as hybrids of economic and reproductive realms. Now that OT is infatuated with information theories of gene-like stories of reproducing and evolving organizations, PE is harder to sell in the Academy. Further, if we accept a theory that acknowledges a role for history and economics, then it is more difficult, I think to contend that social systems evolve according to Natural laws. With punctuated evolution (PE) organization writers had to develop an analogy that observed organizational changes in much shorter time spans. It could not be argued in developmentalism or gradual progress of natural selection that there was a continuous and progressive ladder of organizational fossil remains, from bureaucracy, to multi-divisional, matrix organizations, to complex networks and virtual transnational forms. The Eldredge and Gould (1972) model of PE held there are mass extinctions and abrupt originations of new organizational forms.

The fact that gradual evolution and contingency theory were so well grounded as foundations in organizations writing, when Biology was moving to a new analogy, was a shock to our Academy. The developmentalism orthodoxy of OD and OT about survival of the fittest and natural selection needed a new storyline. What was held to be common sense in OT, most notably population ecology, was no longer a (common) sense explanation. The evolution story beginning with the origin of organization and the proliferation of new species through natural selection had to be reinvented. A new cornerstone analogy had to replace natural selection and survival of the fittest. The Academy had to continue to pretend that organizations were extensions of the laws of Natural evolution, but make gradual change the illusion.

Organization writing is now obsessed with the speed of change, revolutionary change, nanosecond change, instantaneous change response adaptations to environmental shifts which of course are no longer gradually changing, but punctuated by catastrophe.

Few questioned the new analogy. First, it is a quantum leap to contrast a PE change of 50,000 years instead of 10 million years with a nanosecond change of organizational form adaptation and attribute it all to PE. With NAFTA legislation, it did not take 50,000 years for industrial manufacturing to migrate to Mexico, and Asia. Yet, it is still referred to as evolution, the survival of the fittest forms of global division of labor for the betterment of all the societies of the planet.

Second, just as in Social Darwinism, it is claimed that those who are poor and paid sub-minimum wage are just not being selected for survival, and it is their fault because there are good service jobs everywhere. Those who thrive are meant to survive. But, this is hard to square with PE theory, since chance and luck are so much a part of the explanation of a characteristic that means survival and a Panda's thumb that is just extra baggage.

Third, Eldredge (1995) differentiates populations into Avatars and Demes. A deme is a social breeding group. A sexually mature male African elephant, for example, are loners except during that one time each year when they hang out with the breeding group. The rest of the year the African elephant herd is an avatar, a matriarchal hierarchy of mothers and young, bound by the need for economic survival. Eldredge argues that a population is a mythic category, unless you study the differences between avatars and demes. Organizations, it can be argued, lead economic lives, not the reproductive lives of demes.

Fourth, populations are a mythic analogy for organizations (as the Neo Darwinians), says Eldredge (1995), because populations do not hang out in an ecosystem. For example, a species of organizations does not inhabit a mall or industrial park or city center. These ecosystems are composed of many semi-autonomous, mixed-specie, local groupings, not populations at all. The

population construct does not map with how organizations distribute themselves in ecosystems.

In sum, with the list of differences between the evolution analogy and the reality of spectacle growing, it is harder to justify applying the term evolution to organizational behavior, development and theory. Yet, the term evolution continues to be tossed about and stitched into the writing about organization. This position is no longer defensible. And I think the next iterations of evolution analogy make it even less defensible and expose more clearly the spectacle nature of organizations.

Second Genesis – For Eldredge (1995: 197) claiming that organization is about info-gene transmission (the most recent metaphor of organizations) is a distortion of Natural systems. Rifkin's (1998) provides a good overview of the new evolution analogy, in his text, *The Biotech Century*. Rifkin argues what with each no shift in economic history, there is a legitimating cosmology of the creation and evolution of economic life and its relationship to Nature. The succession of evolution analogies allow each economic society to feel comfortable with the way in which business conducts its social and Natured activities. It all appears the result of Nature's design of natural selection. "For more than a century, our ideas about nature, human nature, and the meaning of existence have reflected the extraordinary influence of Charles Darwin's theory of the origin and development of species" (Rifkin, 1998: 197). Punctuated Equilibrium made the reinvention of Darwin necessary (Eldredge, 1995). And the Biotech Century makes another rewriting of Darwin necessary. Social Darwin, we noted, served as a convenient apologetic for the dawn of the Industrial Age. The dawn of the Biotech Century searches for a new apologetics for the new economic life styles, a revised treatise of Darwinian Natural Order, making it all appear common sense evolution. I will argue here that the concept of "Nature" and its relation to the concept of "organizational Natural Selection evolution" is called into question in ways that are tough to ignore. Artificiality is tough to incorporate into organizational evolution when there are visible footprints left in Nature by spectacle. The concept of Nature has to be reinvented by business to

match how we conduct our spectacles of production and consumption. "Every civilization" argues Rifkin (1998: 199) "justifies its behavior by claiming to have the natural order on its side." The current fashion in production and consumption must appear to be "natural" in a revised model of Darwin, the grand design of Social Darwinism, reinvented in both popular and Academic organization writing. Darwinism, in all its forms, is just too essential a story to the Industrial and now the post-Industrial age. I think the Biotech Century gives even stronger preference to Social Darwinism, the survival of the fittest will now be genetically engineered. Darwin stepped off the Beagle with preconceived notions of an Adam Smith survival of the fittest view of Nature, fit for Victorian culture. "We see a parallel of business evolution in Darwin's species evolution because Darwin was a product of the Victorian thinking of his time, and re replicate that thinking in our own time. "Darwin's life spanned the very years that marked the transition from an agrarian economy to the Industrial Age of capitalism" (Rifkin, 1998: 203).

Chaos and Complexity - We are in the information age. We now look at genetic information as an analogy to social evolution. We see evolution in terms of genetic information networks and knowledge networks of knowledge workers in generations of knowledge organizations. Complexity and chaos is the new science of organization evolution. How can we suspend organizations on the edge of the chaos abyss, that is the new metaphor of organizations. It is based on James Gleicks (1987) theory of Chaos and M. Mitchell Waldrop's (1992) theory of complexity.

Chaos and complexity is an interdisciplinary science seeking to explain the sudden emergence of environmental catastrophe that punctuates the equilibrium of organizational evolution. For example, Waldrop (1992) looks at this interdisciplinary science as itself at the edge of chaos and order. Artificial life, he says, is emerging and evolving. It is also a new generation of systems theory writing stimulated by writing on self-organizing systems by Stuart Kauffman (1993). The new writing on organizational evolution is all about replacing linear evolution with non-linear evolution models by adapting Ilya Prigogine's work on

non-linear thermodynamic systems so we can talk about organizations that are “far from equilibrium.”

Organizations are now being viewed as non-linear dynamic information network systems where small random errors at one stage of evolution yield mega disruptions at a subsequent stage. Two nearly identical organizations can occupy a nearly identical environment and evolve quite differently. Organizations are subject to strange attractors and consultants around the globe have programs to identify and adapt to these attractors. Chaos and complexity is the new paradigm of OT and OB. Get used to chaos it is everywhere, it is the latest evolution of the world of global commerce. Organizations are no longer forms and functions, they are non-linear dynamic information networks. Development is no longer gradual, it is a dynamo force riddled with spontaneous turbulence in the field and self-organizing dynamics. A growing number of authors are applying complexity/chaos theory to management and organizations (Wheatley 1992; Stacey 1992, 1993, 1996; McMaster 1995, Merry 1995).

It hardly needs saying that there is no formally validated evidence demonstrating that the complexity theory-based prescriptions for management style, structure and process do produce the results claimed for them. These results are generally to do with long-term survival, a phenomenon not susceptible to study using short-term experimental methods. Such evidence as is adduced is almost exclusively anecdotal in character. The stories range from improving tales of successful corporate improvisation, to longer accounts of organizational death wishes or of innovation which bypasses the obstruction of the formal hierarchy; there are also approving quotations from business leaders (Rosenhead, 1999).

“In the absence of a conclusive case based on evidence of organizational success, it is not surprising that great weight is placed on the authority of science” (Rosenhead, 1999). We are supposed to accept the authority of the “new sciences” as the basis for their application to management and OT (Wheatley, 1992; Stacey, 1996). Can the findings from the complexity science about flow dynamics in liquids, weather patterns, etc. be applied seamlessly to social systems? However, as Rosenhead (1999) argues in the complexity science field there have been “some surprising and diverse results have been

found.” But, it does not follow that if some features can be generalized from one realm to the other, all aspects apply. Many of the macro behavior laws are based upon computer simulations and Boolean math formulas in work done at the Santa Fe Institute (e.g. Kauffman, 1993). In short the criticism of chaos/complexity applications to organization studies is that it is essential metaphoric speculation. Rosenhead (1999) critiques Stacey’s work as follows;

The argument is that "almost all interactions in organizations between individuals, or groups of individuals, take on a nonlinear feedback form"; as a result "every business" is a web of such feedback loops; and the scientific discoveries of complexity therefore apply. (Question: are these large statements to be taken as timeless universals - ie as having been true throughout history and before - and if not how should they be conditioned?) In his later book - Stacey (1996) – the remit is extended still further: "human systems, that is, individuals, groups, organizations, and societies, are all nonlinear feedback networks" to which the findings of complexity theory consequentially apply (p.47).

Rosenhead argues that not all nonlinear dynamic systems exhibit chaos, or near chaos patterns, many times the feedback loops do not move the system from its stable equilibrium. He also challenges the edge-of-chaos metaphor on which much of the complexity/chaos management writing rests. The strange attractor may or may not pull the system from its equilibrium or explain when the system moves away from it. “The edge of chaos, on which so much management complexity writing is predicated, is abolished” (Rosenhead, 1999).

What’s the problem? Broad generalizations and claims are being made about organizational system behavior exhibiting chaos and complexity effects, with little more than metaphoric rationale. The managers are being told how to plan, organize and control, as if the application of this simulation science to organizations was non-problematic. For example, Stacey (1992: 124) says “We find that "human organizations...must operate in chaos if they are to be continually creative." We are told to manage on the edge of chaos and system disintegration and bounded instability (Stacey 1996, p.97). Rosenhead (1999) argues that to apply a metaphor with any confidence, the attributes of the metaphor must be well understood so that each model dimension can be applied

to the world of organizations. Stacey (1992:126-144) argues that “a single vision” to serve as a map to the future and a cohesive strategy is probably a very bad idea. It does not allow for a plurality of competing views and can promote groupthink. Finally, there is as Rosenhead (1999) observes “a hegemonic common wisdom has developed, in favor of the market rather than planning as the way to order our affairs... It appears to add the authority of science to pronouncements that “there is no alternative” to the market.” And it adds legitimacy to a rejection of theories of equanimity, in favor of survival of the richest, and leaving the poor to starve, since they were not selected to survive in the struggle of accumulation. How else can we justify 225 multi-billionaires earning as much as half the world’s population each year. And, industrialized nations are meant to survive because they self-organize at the edge-of-chaos while those in the Third World, they would argue are meant by the law of natural selection to fail, having tipped irrevocably into chaos.

Cyberneticism or Cyborg Genesis – The fact that this generation is raised on computers as toys and life long work partners, is making us look at the whole of nature as a web of computers, no different from the cyberspace web of computers and reveal man/machine or cyborg evolution narratives. Cyberneticism imposes ideological categories on the natural world and on the history of commerce, machine, and Nature. We invert life into spectacle, substituting artificial cyborg networks for natured history (See Situationaliste International, 1966). The result is a dismissal of spectacle roles in coevolution.

Kevin Kelly (1994, 1998) describes how technology is becoming biological, decentralized and distributed. The future of machine evolution is bio-machines, and cyborg connections of humans to the network, the blending of man and machine. The cyborg for Kelly is Nature’s way to keep evolving. Best and Kellner (1999a) are very critical of Kelly’s extension of evolution to cyborgs. They see problems in imploding evolution as technological, mathematical, informational, and biological process rolled into one. As Kelly (1994) describes it on the jacket of his book:

We should not be surprised that life, having subjugated the bulk of inert matter on Earth, would go on to subjugate technology, and bring it also under its reign of constant evolution.

Other books are also combining the manufactured and the organic into one story of evolution. In *Darwin Among the Machines: The Evolution of Global Intelligence*, George Dyson, looks at the co-evolution of human beings, nature, and machine. He views the Internet as an evolutionary dance of man/machine intelligence. Like Leonard (1997) he asks can programs really think and do they replicate like biological organisms in worldwide cyberspace, and are they subject to natural selection processes? Both Dyson (1997) and Leonard (1997) write about the evolution of complex man/machine history viewed through the lens of cyborg evolution. Dyson (1997) starts with the 17th-century insights of Thomas Hobbes and challenges common assumptions that nature and machine are opposing forces. What I want to comment about here is the anthropomorphic aspects of both books. Leonard (1997) is also concerned with the evolution of cyborg intelligence in his book about “bots.” A bot says Leonard (1997: 10) “is a software version of a mechanical robot.” Leonard explores the evolution of artificial life forms, or “bots” on the Internet. He views bots as a new species inhabiting the cyberspace environment and his task is to write the genetic life tree of bot evolution. Dyson's book, like Leonard's book on Bots looks at man/machine in co-evolution, though it appears that Dyson looks also at their co-evolution in nature. I am uncomfortable with this whole genre of co-evolution theory. It seems to legitimate spectacles of nature/human exploitation while calling them evolution.

Robot is a Czechoslovakian term of science fiction writer Karel Capek, meaning “forced labor.” Leonard is obviously engaged in anthropomorphism, ascribing human characteristics to machine code, to bots.

On one level, to think of the Net as an organic system is to push at the limits of metaphorical sense. Computers are the antithesis of organisms. Nature is not digital. When networks grow, it is not of their own accord, as nurtured by warm sun and soothing rain. It is because some human, somewhere, flipped some switches,

plugged in some cords, and hacked some code ... What is organic about a software patch, or a bot? (Leonard, 1997: 229).

Leonard (1997) describes how easily we anthropomorphize cyberspace into a living ecological world. If we can look at the evolution of McDonalds or IBM, why not look at evolution of Barney bots, those cute dinosaurs that inhabit cyberland. If we can trace the lines of descent of bureaucratic forms, then why not trace the semantic lines of descent of bot genealogy? Organizations are viewed as sexually reproducing, breeding and spawning offspring. This is a most interesting reversal: we are willing to treat Nature as a computer and to see computers as alive. The ability to suspend belief is the oldest trick of storytellers and now web-based storytellers (Leonard, 1997: 87).

Mitchell's (1998) *Last Dinosaur Book: The Life and Times of a Cultural Icon* has direct relevance and insight to OT. Like bureaucracies, dinosaurs, which have been thought to be extinct, are pervasive in our everyday lives. Most of us work in a bureaucracy and we are exposed to dinosaurs in books, movies, and television ads. Mitchell is a cultural historian and editor of *Critical Inquiry*. He thinks that the history of the dinosaur icon is inseparable from the larger history of modern organization and the celebration of advanced technology in biotech, cybertech, and biogenetic engineering firms (1998: 12). Like Best and Kellner (1999) he is interested in Marx's theory of the commodity fetish and organizational fascination with "Lamarckian progressive evolution (Mitchell, 1999: 16, 28, 30). And like me he is interested in the "changes in the technology of visual spectacle" (p. 100). What does it mean to think of the bureaucratic organizations as undergoing an "'evolutionary' series of transformations?" (p. 100). I think it means that we an organizational theory have moved from a historical understanding of the firm to an evolutionary understanding of the firm. No one in the business college is questioning the production and consumption spectacles to see if perhaps as Mitchell (1999: 100) argues "transnational corporate power [has] run amok" (additions mine). In the MBA program we train our students in the Jurassic Park spectacle. Capitalism was the dinosaur theory, a lot of over-sized, stupid dinosaurs slowly grazing upon the earth. Now, there

are the new Jurassic Park dinosaurs, down-sized, running in packs (teams), smart knowledge workers, learning to defeat all opponents, even man himself, and even the biotech and cybertech Theme Park imagineers. The dinosaur image is what is evolving, the cultural icon we call bureaucracy is evolving and adopting new cybertech and biotech strategies. I think work by Best and Kellner (1999: 17) agrees with my position that OT continues to endorse biological fallacy, when now complexity, chaos and cybercapitalism theorists “wrongly dissolve the boundaries between natural and social systems.”

Coevolution Models of Evolution Ironically, spectacle replaces a tangible life world with a progression of images (Debord, 1967: #36). Even biological theorist, Herbert Spencer in 1910 called this kind of theorizing, the “biological fallacy” (Hodgkinson, 1996: 41). The biological fallacy is to treat organizations as evolving instead of coevolving.

Humans are becoming cyborgs. Cyborg is a powerful metaphor, meaning that humans evolve, they use tools, and since humans are interfacing with software and hardware tools, they are cyborg. “e are on the edge of the next stage of human development: the combination of man and machine into an organism more powerful than either” says one of Leonard’s interviewees (Leonard, 1997: 106 The late modern paradigm of chaos and complexity and the technologies of the Biotech and Cybertech century are enticing us to adopt a Biocybernetic coevolution model of the relation of organization, technology, people, and nature.

In OT the organic metaphor gets in the way of seeing nature and power; we have been taught since Fayol that organizations evolve like trees, animals, and other living species; there is no need to look at the impact of commerce on the trees and butterflies. Organizations are not the fulfillment of natural laws of evolution, they are part of coevolution with nature. Organizations are spectacles of coevolution, producing, organizing, and consuming spectacles for the spectators, but also transforming the ecology.

Coevolution of humans, machines, and nature has become the hot topic of complexity and chaos theory (Waldrop, 1992; Kauffman, 1993; Dyson, 1993;

Leonard, 1997; Rifkin, 1998). But these theories are silent about spectacle, not silent about production and consumption, but silent about these being spectacular. The question, do economic and ecosystems, and spectacles operate according to Darwinian principles of natural selection and fitness, or have the dynamics unleashed self-organization patterns of decidedly coevolution?

Instead of fitness maximizing, organisms in classical population genetics or neoclassical economics, “real organisms constantly circle and chase one another in an infinitely complex dance of coevolution” (Waldrop, 1992: 259). It is this coevolution dance that produces, as in world of butterflies and flowers, spiders and flies, thistle bushes, other complex adaptive, self-organizing systems. There are “exquisite webs of economic and political dependencies – alliances, rivalries, customer-supplier relationships, and on and on” (Waldrop, 1992: 259). In the coevolutionary dance, the simulation model display both cooperation and competition (p. 292).

These models simulate edge-of-chaos phase transitions of cell life, DNA genetics, flags flapping in the wind, and the coevolution of flies and frogs. But, it is not clear whether the simulations, the Boolean algebra models of coevolution are more than just popular and fashionable metaphor illusions about evolution. Are “the Dickensian horrors of the Industrial Revolution” (Waldrop, 1992: 294) and the reemergence of Sweatshops and child labor in the current Global Business Revolution the balancing of chaos and order at the edge-of-chaos, or the result of unregulated, out-of-control laissez-faire economic ideology? Is the entropy of rainforests in the Global Ecosystem the edge-of-chaos behavior of McDonald’s cattle consumption or chaos itself? How do coevolving human-machine-Nature systems get to the edge-of-chaos? How do we define or measure the “fitness” of McDonalds and other corporations in Global Ecosystems? “

And yet,” says Waldrop, 1992: 309) “fitness isn’t decreed from the outside at all. It arises from the dance of coevolution, as each individual constantly tries to adapt to all the others.” Kauffman’s (1993) ecosystem computer simulations

explore coevolution in connectionist networks. He imagines ecosystems with interacting and mutating species evolving first by natural selection, as in how frogs catch flies, and each adapts to outwit the other. Within coevolution, Kauffman (1993) sees lots of room for coevolution, as flies and frogs or rabbits and foxes learn to strategically outwit each other, in the “imaginary landscape of ‘fitness’” (Waldrop, 1992: 310). But, this dance of coevolution has other players, the machines and Nature itself. First, there are digital analogs, cyber machines that graze the Internet in the landscape known as cyberspace. Second, there is the coevolution of production/consumption with nature (air, water, trees, and the whole planet).

Coevolving Cyborgs “Communities of coevolving digital species need large, complex spaces in which to grow” (Dyson, 1993: 126). Leonard (1997) also looks at the coevolution of man and computer. He interviewed inventors of “bots” (short for robots) programs, to write a genealogy of artificial intelligence in inorganic nature. Bots, Leonard (1997: 11) says, “are the first indigenous species of cyberspace, a class of creatures dazzling in its infinite variety.” The cyber world is coevolving with the natured world.

As Dyson (1993: ix) puts it “in the game of life and evolution there are three players at the table: human beings, nature, and machines.” I of course argue that there is a fourth player, the spectacle. I want to close by heeding Best and Kellner’s (1999) warning about being caution in imploding the boundaries human, machine, and nature. Clearly changes in the production and consumption spectacle is a leading edge in evolving us as humans, our machine relations, and relationship to nature. There are ethical considerations galore as we enter the Biotech Century (1998) and unleash the Second Genesis, releasing reengineered plant, animal, and human species into the global ecosystem. Ascribing too much intelligence to machine systems, leaves out our own agency in spectacle production. Looking at coevolution as just self-organizing chaos edges downplays the designers of spectacle in the dance of coevolution.

Charles Darwin’s nemesis and contemporary was Samuel Butler who in the 1860s said” we are only component atoms a single compound creature,

LIFE, which has probably a distinct conception of its own personality though none whatever of ours” (Dyson, 1993: 217). Butler, argues Dyson, had theories of self organizing systems (coevolution) design that did not become popular as did Darwin’s (1859) *Origin of Species*. Actually Darwin does talk about man’s attempts to domesticate plants and animals and makes reference to the relation between commerce and nature. He has some awareness of coevolution.

We have mapped, tamed, and dismembered the physical wilderness of our earth. But, at the same time, we have created a digital wilderness whose evolution may embody a collective wisdom greater than our own (Dyson, 1993: 228). I would dismiss Dyson (1993) and Leonard (1997) as anthropomorphizing cyborg as the origin of a new species of human-computer coevolution, but for one point. In spectacle, we humans are willing to suspend disbelief and endow computers and cyberspace with personification and natured evolution. In the postmodern sense, we have trouble distinguishing authentic evolution from technological invention, and we see them both in coevolution. And as we enact spectacles of production and consumption we are coevolving, it would seem, into coevolving human-machine-nature landscapes. We do inhabit the coevolving ecology of spectator and spectacle.

In sum, as biology moved from progressive evolution, to survival of the fittest, to natural selection, and to punctuated equilibrium, the field of organization studies mimetically shifted its analogy. In each successive analogy, we tried to account for an historical spectacle of production and consumption as an act of Natural evolution, the working out of commerce genetics. In Ultra Darwinism, the focus of organization studies became how populations reproduce their specialized and generalized forms from the stew of genetic variation. All the while, we have ignored the real ecosystems, the Natured existence of organizations in air, water, earth, and forest. We have substituted an artificial analogy of organizational behavior for the way in which organizations impact Nature. The mater-energy conversions of economic organization processes affect the Natural environment.