

Session on Development Theory - Dynamics of Social Change

ECOLOGY AND DEVELOPMENT THEORY

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Abstract

This paper explores the parallels and distinctions between the fundamental principles governing biological and human social evolution. Both biological and social systems are characterized by energy cycles. Whereas physical systems always tend toward greater entropy or disorder, biological and social systems absorb energy from the environment and utilize it to create greater order. Development of more complex forms of organization is also a central principle of both biological and social evolution. Nature strives to maintain a natural balance and harmony, but social evolution occurs by new behaviors that disturb the existing harmony leading to more effective forms of adaptation. In both biology and society, the individual plays a crucial role in the introduction of new characteristics. But whereas biological evolution is entirely a subconscious process, social development is at least partially conscious and has the potential to become fully conscious, once the principles and process of development are theoretically understood.

Introduction

The Hyderabad General Assembly focuses on the essential interaction between human society and the earth's ecosystem. A full understanding of this complex issue requires an in-depth knowledge of the relationship between human beings and earth's physical environment and biosphere founded on an understanding of the principles or laws governing the interactions between living species and physical environment. This includes the dynamics and organization of relationships within and between different species, their dependence and impact on the environment, the dynamics and balancing of ecosystems, energy cycles, and the principles governing evolution of both species and the biosphere as a whole. Without a comprehensive knowledge of each aspect of the ecosystem, any attempt to compensate for or modify the impact of human activity is likely to be inadequate or fraught with unanticipated consequences.

But even if our knowledge of ecology were complete, it would not necessarily provide us with the knowledge necessary to modify the impact of humanity on the ecosystem. That requires a complementary knowledge of the human ecosystem which operates in parallel to and in association with the physical and biological ecosystem of earth. This human ecosystem consists of all the individual members of our species, the social collectives, the systems and organizations through which it operates and the laws or principles governing its growth, development and evolution. It too is subject to principles of dynamics and stability, energy cycles, complex organizational interrelationships and evolutionary processes. While the economic, social, political and cultural dimensions of human society are the subject of study by different fields of social science, none of these fields examines human activities in their totality and identifies the underlying principles and processes governing social change. The principles and processes governing the development of the human ecosystem are the subject matter of what we refer to as *development theory*.

A comparison of ecology and development theory reveal some interesting parallels.

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Energy Cycles

Ecology describes the cyclic processes known as the food chain by which inorganic energy is absorbed by lower life forms and serves as fuel for the survival, growth and development of higher order organisms. The accumulation of surplus energy in organic form is the essential basis for the flourishing of life.

The growth and development of human society is also governed by energy cycles. The accumulation of surplus social energy is the fuel for the introduction of new patterns of behavior and higher order social formations.

There is however a significant difference between the energy of physical and social systems. As far as science knows, there is a fixed finite amount of matter and energy in the universe which cannot be altered by any known process. The same is not however true of social energy. While our bodies are indeed maintained by a continuous intake of physical energy in the form of food, the energy that governs the development of the collective is an expression of individual human psychology. It is psychological energy. It is generated by the mind—by ideas, inspirations, ideals, values, attitudes, emotion and desire—released into action and multiplied by social endorsement. The mass enthusiasm surrounding this summer's Olympics and the mass panic unleashed by fear that US financial crises will evolve into a global epidemic are only extreme examples of a common everyday phenomenon. It expresses in the dynamism of the market place, the contention of political parties vying for power, the exuberant growth of social networking sites such as MySpace and Facebook, the terror and outrage generated by a terrorist bomb blast, the massive mobilizations for war, the craving for the latest fashion or excitement of physicists over commissioning of the latest atomic accelerator.

While the physical ecosystem may be slowly running downhill, the social ecosystem is constantly rising in energy as population grows, levels of education rise, communication and transportation act as a stimulus to greater interactions between human beings, witness the Internet. There is no reason to suppose that what we term human energy is subject to any finite limits at all any more than mind, imagination and creativity are subject to limits. It rises in on a logarithmic scale from inertia, depression and unconsciousness to enthusiastic exhilaration, dynamism and ever expanding consciousness.

We are all too aware that social development has been associated in the past with a dramatic increase in the consumption of material energy and resources. So much so that we take it for granted that higher levels of development invariably require proportionately or disproportionately higher consumption of material inputs. Yet this impression is due to the fact it is very difficult to measure quantitatively the difference between the illiterate mountain tribesman living on one meal a day and the modern educated citizen participated in national and global events. Obviously the different in caloric intake and fuel consumption represents only a minor aspect of that change.

As society rises up the scale it becomes less depended on material actions and resources, and increasingly depends on higher order mental, emotion and social resources – ideas, technology, institutions, values, systems – which do not consume proportionate material energy. Therefore the limitation of physical energy need not impose any inherent constraint on the progress of social development.

Organization

All nature is a vast web organization of interdependent species and processes that support and determine the behavior of individual life forms and species within the wider environment.

Similarly, human society is a complex web, a multidimensional organization of human beings and human activities that determines the behavior and development of individuals and subgroups within the social collective. It is organization that harnesses the available energy and converts it into higher order results. Development is largely a result of the progressive release of greater amounts of energy and their increasing organization. Money, Language and Internet illustrate.

Balance and harmony

These are fundamental principles of both physical and human ecology. Nature evolves through a balanced development of complementary and interdependent aspects. A sudden intrusion of excess energy or activity can disrupt the balance. Nature's first impulse is to maintain and restore that balance wherever it is disturbed. Human society is governed by a similar conservative principle. Every developmental change constitutes a disruption of the existing social harmony and the formation of a new pattern to replace that which has been broken. The subject of human ecology examines the conservative tendencies in human society. The subject of development theory examines the processes by which it evolves.

The current world financial crisis is the result of imbalances arising from unregulated speculation, the result of a conscious dismantling of the national regulatory mechanism that separated commercial and investment banking. The solution is the evolution of a global monetary organization.

Individual in evolution

According to neo-Darwinism, mutations occurring in individual members of a species are the starting point for evolutionary changes that ultimately introduce new characteristics into the species as a whole. Development theory posits that conscious modifications in behavior by individual members of the social collective (pioneers) introduce new patterns of adaptive behavior that, if sufficiently successful, are adopted and replicated by the collective, resulting in changes in the society as a whole.

Family, city-states, empires and nations have played a crucial part in the evolution of human society in the past, giving rise ultimately to modern societies where the individual human being has been given the freedom and capacity to fully develop and achieve. What does this tell us about the direction and process of social evolution?

Whereas in nature, the individual is simply an unconscious medium for genetic transmission, in society the individual has the potential to consciously evolve new characteristics. One implication is that speed of social development is not limited to generational mutations.

Consciousness

We regard physical ecosystems as unconscious and incapable of volition, but they are nevertheless governed by instinctive responses of life to adaptive challenges, which may be termed subconscious. Human development and evolution differs in the sense that it is a more conscious process. In formulating strategies to restore balance and harmony between the human and physical ecosystems, conscious human awareness is the starting point, but it is not sufficient. We also require a knowledge of the processes by which humanity converts conscious intention into new adaptive behaviors. That is precisely the subject of development theory.

The difference between subconscious and conscious development is the difference between Malthus and Green Revolution. Malthus regarded the productivity of land a constant and

concluded the physical ecosystem could not support the expanding population. Green Revolution focuses on the man, the farmer, rather than the land, and raised his productivity. It was not technology that did it, but consciousness and organization.

For a 1000 years, Europe was the hotbed of continuous warfare between nations. Since 1950 it has evolved into the most peaceful region on earth where war has become unthinkable. That achievement has been brought about by a conscious effort to overcome the limitations of the nation-state system which was the principal cause of incessant warfare and evolve a supranational system of governance.

Theory goes to the root causes beneath the apparent superficial processes. The root cause for Global Warming is not CO₂. It is caused by human beings. The remedy is not controlling emission of green house gases. For even if per capita generation were radically reduced, the overall increase arising from developing of India and China will dwarf current levels. The remedy is moving the focus of development from the physical to the mental level. Not physical deprivation but mental elevation. Role of education and public awareness in promoting human development. This can be done not simply by educating people more, but by educating them differently, *to think and evolve as mental beings*. [Note that technology itself is generated by a shift from physical to mental.]

During the banking crisis of 1932, FDR understood that the solution was not finding enough money to support all the failing banks. He went to the root cause, which was fear, and stopped the crisis in its tracks.

Development theory should lead us to understand the process by which human beings create and overcome problems. The current ecological crisis comes to help us awaken us, to make humanity more conscious, and compel us to evolve a more effective global social organization to share our resources and address our common concerns.