

Section I

# Structures of Civilization

# Chapter I

## The Civilization Grand Model

### INTRODUCTION

The purpose of this study is to develop a comprehensive model of generic civilizations and world civilization, applying the cybernetic technique of analysis and synthesis. Identifying the role of information-communication processes is particularly important for this quest, because these processes strongly influence the progress of civilization at the beginning of the 21<sup>st</sup> century. Three models, developed by Braudel (1993), Toynbee (1957), and Koneczny (1962), serve as both justification for this type of study and the foundations for a new model.

The spectacular progress in technology and living standards achieved by mankind at the beginning of the third millennium prompts research on the grand view of the human condition. Numerous questions need to be answered:

1. What is a civilization?
2. What types of civilizations can be recognized at the beginning of the third millennium?
3. What are the relationships between any particular civilization and the world civilization?

4. What is the role of information and communication in a civilization?
5. What types of laws rule any particular civilization and the world civilization?
6. What are the prospects of the world civilization?

Answers to these questions should help us to understand our current condition and the direction of its improvement or perhaps mankind's further well-being.

### THE CIVILIZATION APPROACH TO HUMAN DEVELOPMENT

The study of human development involves several scientific disciplines such as anthropology, archaeology, geography, history, sociology, political science, economics, art and literature, and cybernetics. Each of these disciplines develops its own methods of analysis and synthesis; however, only a few attempts exist toward the formulation of grand models of human development. The scientific tendency in historiography is more toward analyzing than toward synthesizing.

One of the earliest researchers of civilization was Fukuzawa Yukichi in Japan, who defined it as follows:

*Civilization comforts man physically and elevates him spiritually... Civilization advances the well-being and dignity of man, since man acquires these benefits through knowledge and virtue. Civilization can be defined as that which advances man's knowledge and virtue.*

In his opinion, "*morals had remained almost unchanged throughout history, but intellect had shown marked growth and progress* (Miyaki, 2004).

These are excellent thoughts, and very important for those of us living in the 21<sup>st</sup> century to consider in our approach to "the knowledge society," which looks mostly for *artificial* intelligence in profit-driven data mining and robotics and neglects the moral values of *natural* intelligence.

In Western historiography, six attempts were undertaken in the last century to define a grand model of human developmental history. These undertakings generated more criticism than applause, and the Polish study is not widely known to the historical community.

The German philosopher Oswald Spengler published a study *The Decline of the West* (1932), in which he reflects the pessimistic atmosphere of Germany after World War I. Spengler maintained that history has a natural development in which every culture is a distinct organic form that grows, matures, and decays. He insisted that civilizations are independent from external influences. He predicted a phase of "Caesarism" in the future development of the Western Culture, which he believed was in its last stage.

The English historian Arnold Toynbee published his greatest work in the twelve-volume *A Study of History* (1957). He compared the history of 26 different civilizations, every one of which

presumably follows a similar pattern of evolution through a cyclical pattern of growth, maturity, and decay. He believed that societies thrive best in response to challenges and that a society's most important task is to create a religion. He was less anxious than Spengler with characterizing civilizations, and more concerned with the criteria by which they are to be determined. He stressed religious and philosophical factors as guiding civilizations. Withal, he never defined "civilization" clearly. Though he saw the Western civilization to be in its decay phase, he saw hope for the future formation of one spiritually-oriented world community.

The Polish historian Feliks Koneczny wrote three books on the theory of civilizations: *On the Plurality of Civilizations* (1962), *For an Order in History* (1977), and *History Laws* (1982). His works on civilizations were never published in communistic (then Stalinist) Poland. Koneczny, who published 173 works, was an empirical theoretician who discerned (in contrast to Spengler's *a priori* model) that there is no one linear history of mankind. He perceived seven major civilizations and examined their common laws. A civilization for him is a regime of collective life. His main inquiry was to find factors differentiating civilizations. These are named Quincunx: truth, goodness, beauty, health, and prosperity. Also the Triple Law (family law, inheritance law, and property law) differentiates civilizations. Human attitudes toward the Quincunx and laws are the key to understanding the civilization process. He was against the idea of cycles of civilizations and formulated two laws of civilizations.

According to the first law, each civilization has a cause and purpose. The second law states that to endure, each civilization must harmonize interrelations among categories of existence and laws. Otherwise, a civilization may vanish. Mergers between civilizations lead to chaos, disintegration, and decay, since civilizations may have opposing attitudes toward categories of existence

and the Triple Law. Toynbee, in a preface to the English edition of *On the Plurality of Civilizations*, judged highly Koneczny's contributions and called him "indomitable," because the Polish historian wrote his last works during the German occupation of Poland, when he found himself in very poor conditions.

Russian-born Pitirim Sorokin, professor at Harvard, in his *Social and Culture Dynamics* (1937), quantified all conceivable components of a culture from Greco-Roman to Western. He collected data spanning a period of 2,500 years and discovered a pattern of recurrent fluctuation between "sensate" and "ideational" value systems:

- During a sensate period, life is controlled by a materialistic worldview, and economic and scientific activities blossom, particularly during the "active" phase. During the "passive" phase, hedonistic behavior prevails, and in the final "cynical" phase the sensate mentality negates everything, including itself.
- During an ideational period, life is controlled by spirituality and moves from the "ascetic" phase to the "active" (expansionistic) phase, and finally degenerates into the "fideism" phase (a desperate effort to sustain the faith by means of official persecutions).
- Occasionally, a harmonious combination of the best elements of both types may occur. Sorokin calls these happy periods "idealistic," and they are characterized by a balance of faith, reason, and empiricism (Greece during the age of Socrates and Europe during the Renaissance are examples of this type.) Other mixed types of periods do not demonstrate this agreeable integration.
- These fluctuations of value systems are, according to Sorokin, controlled by two principles:

1. The principle of "immanent self-determination," which means that a socio-cultural system unfolds according to its inherited potentialities. Although external factors can impact the development of the system, they cannot change its fundamental nature.
2. The principle of "limits," which states that growth cannot last forever, since sooner or later it exhausts its creativity and begins to wane.

According to Richard (1996), several scholars attempted to replicate Sorokin's findings. Results were mixed, but no one recommended abandonment of his general theory. Sorokin wrote his theory about 50 years ago when he argued that we in the West had entered a sensate period, in which cynicism is the dominant theme. We had also entered a period of "transition and crisis," marked by the international conflicts, social pathology and so forth. Sorokin's approach is very useful in analyzing world events; however, it is not applied by him to define or classify civilizations. He criticizes Toynbee's classification of civilizations, which he says were "dumps of cultural phenomena mistaken for vast socio-cultural systems.....vast pseudosystems of civilizations, taken out of an enormous mass of other cultural complexes without any uniform *fundamentum divisionis*, on the basis of different and somehow indefinite criteria"—a procedure both illogical and unscientific (Wilkinson, 1996). Later, Toynbee revised his list of civilizations (1961) and Sorokin agreed with the new classification. Sorokin perceived a civilization as "a cultural field where a multitude of vast and small cultural systems and congeries—partly mutually harmonious, partly neutral, partly contradictory—coexists" (Sorokin, 1950, p. 213). Sorokin was not a civilizationist and his units of study are not civilizations, but he was the founding president of the International Society for the Comparative Study of Civilizations, and he has been given considerable attention by members of the ISCSC.

Alfred Louis Kroeber, the doyen of American anthropology, was interested in (among other topics) historical synthesis at the world level, particularly in the history of civilized societies, both ancient and modern. The basis of Kroeber's point of view is the natural history of culture, with strong emphasis on: a) humanistic factors, particularly silent ones, b) classification of cultures, and c) culture as a phenomenon. His book *The Nature of Culture* (1952) is the main presentation of his ideas on these topics. In his famous work *Configurations of Culture Growth* (1944), he analyzes cultures as anthropologically complex entities but not significantly different. From the civilizationist's point of view the most interesting book is *Culture, a Critical Review of Concepts and Definitions* (1952), co-authored by him and Clyde Kluckhohn. In this book, the authors provide a very broad review of different definitions of culture and civilizations used in different countries. They define culture as "a product; is historical; includes ideas, patterns, and values; is selective; is learned, is based upon symbols, and is an abstraction from behavior and the product of behavior." In respect to civilization, the authors identify *civilization* with the objective technological and informational activities of society, but *culture* with subjective religion, philosophy, and art [1].

The French historian Fernand Braudel was a "structuralist" who perceived human development to occur in three historical structures ("measures of time"): the quasi-immobile structure (*la longue duree*), the intermediate scale of "conjectures" (rarely longer than a few generations), and the rapid time-scale of individual events. Each was applied in one of the three parts of *La Mediterranee* (1949). In his book *A History of Civilizations* (1987), he contrasts his own approach to history to the "over-simple theories" of Oswald Spengler and Arnold Toynbee. He assumes that the history of human development is the history of civilization. A student should learn history as *a whole*, as only this *whole* is a *civilization*. Civilization for him

is a process rather than a temporarily stabilized construct. It is a structure of transformational streams in a realm of daily activities of human life. He perceives one civilization as a human *continuum* or, depending upon the context, he may delimit hundreds of civilizations (e.g., "Roman civilization" or "industrial civilization"). He also, like Koneczny, developed his triple structure idea during World War II while he was a prisoner in Germany.

### THE CONTEMPORARY CIVILIZATION APPROACH TO HUMAN DEVELOPMENT

Rushton Coulborn, in his book *The Origin of Civilized Societies* (1959), debates a very difficult question concerning origins of civilized societies and addresses two questions: 1) Is there a distinction between civilized and primitive societies? 2) Were civilized societies of single or multiple origin? He reserved the term "civilized" for the large societies and the term "civilization" for their high culture considered abstractly (he was a student of A.L. Kroeber). He found five of the first seven primary civilized societies in river valleys (Egyptian, Mesopotamian, Indian, Andean, Chinese societies), one on a small island (Cretan society) and another in a tropical forest (Middle American society). Among factors creating these societies, he perceived the following: warmer climate, settlement, creation of religion by the settlers, which led to the creation and integration of these societies, change of leadership during migrations from more to less dangerous locations, adaptation to water supplies, and establishment of a new religion based upon some parts of old religion or brought by newcomers with charismatic leaders (e.g., the Spaniards colonizing America). The most intriguing part of the author's method is that he applies comparisons among these civilized societies, which show some analogies and some differences. For example, he defined one



distinction between civilized and primitive societies which is “*perfectly clear and is not only quantitative: civilized societies are all subject to a cyclical movement of rise and fall in the course of their development, but no similar movements occur in the development of primitive societies.*” From this author’s 21<sup>st</sup>-century perspective, cyclical development is controlled by growing cognition of a given society, which learns how to survive and develop itself.

Carroll Quigley, in his *The Evolution of Civilizations* (1961), analyzes mechanisms of civilization rise and fall, claiming that a process of change is neither rigid nor single in any society, but rather that each civilization is a confused congeries of such processes in all types of human activities. Furthermore, he insists that to recognize one decisive factor in this process is not a description of reality. He also criticizes approaches to periodizations of history, offering seven stages of human development in just the millennium 950-1950 (mixture, gestation, expansion, age of conflict, universal empire, decay, and invasion), and divides each stage into seven levels (intellectual, religious outlook, social group, economic control, economic organization, political, military)—two more than Toynbee’s.

Matthew Melko, in his book *The Nature of Civilizations* (1969), defines some elements of a basic model of civilizations, such as their components (outlook, aesthetics, society, economics, government, international) and their developmental stages (crystallization, transition, complete disintegration, ossification [a freezing at a crystal stage]) as well as developmental macro-phases of feudal system, state system, and imperial system, which he analyzes separately from stages. He thinks that civilizations are large and complex cultures which can control their environments. Civilizations may have different levels of cultural integration, but each of them has a basic pattern (of government, economy, war) that allows them to be distinguished from each other. Melko did not characterize any particular civilization. He

recognized the civilizations’ ability to have transformations and conflicts. His strong contribution is in providing an interesting model of civilization development through three macro-phases. Later, Melko (2008) provides a very interesting question: “Are civilizations real or simply reifications?” And answers as follows: “They are reifications (visible-invisible entities) based upon cultural and transactional observations, somewhat in the sense that Europe or Indian Ocean are reifications. All have geographical reality but depend for their identity on consensus.”

David Wilkinson (1987) proposes for current times to analyze only one central civilization, not several. For him, civilizations are not cultural groups but rather socio-political groups or *poly-cultures*. His civilizations are social units, larger than states, integrated by political interest. Wilkinson insists that 13 major civilizations evolved in the last 3,500 years into a central civilization, which today has transformed into a single global civilization. This process began in 1500 B.C., when Egyptian and Mesopotamian civilizations merged. Later, the central civilization was swallowing other civilizations at different phases, such as Near Eastern (1500-500 B.C.), Greco-Roman (500 B.C.-500 A.D.), Medieval (500-1500 A.D.), Western (1500-2000 A.D.), and Global (2000-present). Of course, penetration of ideas, people, goods, and so forth among civilizations takes place and influences internal dynamics of each one. However, particularly after September 11, 2001, the boundaries of different autonomous civilizations are well seen, and the civilization super-layer of the global civilization is well perceived in all paths of mainstream human development.

The International Society for Comparative Study of Civilizations (ISCSC) tried several times in the 1970s and 1980s to generate discussions on civilizations’ classification, their origin and spatial and temporal boundaries. About 56 researchers offered their views on these topics in a post-conference book *The Boundaries of*

*Civilizations in Space and Time*, edited by Melko and Scott (1987). As a result, we read “comments to comments,” with a lack of clear agreement on most issues, except for a definition of civilization as a large and complex culture (super-culture) with a history. This definition supports the Anglo-French-American view of civilization as a monolithic model.

Lee D. Snyder (1999), in his major book *Macro History-A Theoretical Approach To Comparative World History*, which appeared by the end of the 20<sup>th</sup> century, had a chance to synthesize contributions of many 20<sup>th</sup>-century historians and scientists who made sense of world history. The author argues that the largest historic framework is a “culture-system,” called a culture or civilization by many. However, his basic unit of study is the Historic Cycle of 300 to 400 years, when macro- and micro-history can be analyzed within a framework of five dimensions: economic, socio-political, intellectual (insight, spiritual aspect, subjective side, ideas, “culture”), geographic, and expressive (art, literature, and music). Since his book is rather on world macro-history than on civilization, the author is mostly preoccupied with the timing of the historic cycle and how it is influenced by these five dimensions of culture-system. He is innovative in defining the role of an individual in a culture-system.

Felipe Fernandez-Armesto (2001) defines “a civilization” as an area or period distinguished, in the mind of the person using the term, by striking continuities in ways of life and thought and feelings. At a further level, the word “civilization” denotes a process of collective self-differentiation from a world characterized implicitly or explicitly as “barbaric” or “savage” or “primitive.” Societies which have achieved such self-differentiation can be called “civilized.” In recognizing a civilization, the quoted author puts strong emphasis on the criterion of geography, since civilizing, according to him, means transforming the environment for their own ends. Hence, he is fascinated with

such civilizations as Small-Islands civilizations, Atlantic civilization, and Pacific civilization.

## THE WORLD-SYSTEM APPROACH TO HUMAN DEVELOPMENT

A discussion on the role of civilization in human development at the end of the 20<sup>th</sup> century looked to be saturated with *jeu le mot* which led nowhere. Immanuel Wallerstein understood this very well and offered the world-system concept as a new approach in analyzing human development. In *The Modern World-System* (1974), he offered a tool to recognize what is the most useful interpretation of what happened historically. In his interpretation, the “units of analysis” are “world-systems,” which means something other than the modern nation-state, something larger than the nation-state, and something that was defined by the boundaries of an effective, ongoing division of labor. He was concerned about the special dimension of a world-system; hence, he later offered Einstein’s TimeSpace concept to keep “historical systems” issues. When he was working on this new approach, it was a time of Cold War and the rise of computer, management and political systems applications (e.g., PERT technique, analyzing only main events (“world-systems”) of a given project to find a critical path to determine the success or failure of the whole project. One such “world-system” was, in the mentioned period, NATO or “capitalism,” which was winning against “communism.” Today we can add to them the European Union, NAFTA, the Internet, the World Trade Organization, “geopolitics” (Moczulski, 2000), and so forth. A world-system implies the hierarchical existence of a world core, semi-periphery, and periphery, which reflects the old issue of North versus South (Poverty War) or West versus East (Cold War). Of course, while this approach is a useful tool, it cannot substitute the issues of civilization dynamics, governing human development at the small-scale,

grass-roots level. Wallerstein considers the accepted concepts of civilization only useful for a long-term, large-scale analysis of social change. For a short-term study, 'world-systems' are more useful units of analysis.

The world-systems analysis and synthesis became a popular approach, which is expanded by Christopher Chase-Dunn and Thomas D. Hall in their book *Rise and Demise, Comparing World-Systems* (1997). The authors' goal is to trace the transformation of "modes of accumulation" from "kin-based" (based on "normative" social cohesion) to "tributary" (where "organized coercion of labor" predominates) to "capitalist" and "socialist" world-systems.

David Wilkinson (1995) offers again a very interesting idea that "civilizations" are "world-systems," particularly his unique central civilization. To a degree he is right, but not all civilizations are "world-systems." Nowadays, we could classify only global civilization and Western civilization as world-systems, which rule the world through their critical paths.

Lauren Benton (1996) rejects the world-system concept as the "master narrative," because it is more important to understand social experience. Cultural perspective rather than the goal illuminates the structure of the whole. This position resembles the progress made in modern physics when the Bohr Solar Model (1913) of the atom was modified by the Heisenberg Uncertainty Principle, which states that we do not know both the precise location and the precise velocity of any given nuclear particle. The new Charge-cloud Model (1950s) uses indistinct and overlapping "probability clouds" to approximate the position of an electron in its orbit (defined by Niels Bohr and kept in the 1950s model). Therefore, positions taken by Wallerstein and Benton should not be exclusive but additive, as is shown in Figure 1-6 [2].

All of these maneuvers with the issues of civilizations, macro-history and world-systems are limited, because we have to investigate more components of civilization through modern system and

cybernetic tools that can be applied to complex entities. For example, we have to recognize a role of technology-driven infrastructures that support human life and culture. A sign of this role is indicated in William McGaughey's book *Rhythm and Self-Consciousness: New Ideal for an Electronic Civilization* (2001), which shows that as civilization has moved from print to electronic culture, its ideals have changed from the classic "truth, beauty, and good" to an elusive element called rhythm (the energy and control of the individual and of human society), and how self-consciousness (concentrating on ourselves), enemy of rhythm, underlines the complexity of modern life. We who live today feel a strong presence of technology in our *modus operandi*; hence, technology can be considered as one of those world-systems. Neil Postman (1993) even insists that we live in *technopoly*, which surrounds culture to technology. A good sign of it is a statement that "distance is dead" (Cairncross, 1997), because geography, borders, and time zones are becoming irrelevant to the way we conduct our business and personal lives, courtesy of the information-communication revolution which allows us to travel less to achieve the same results.

There are about 200 million computers installed and 7 billion chips embedded in smart products (more than there are people on the Earth), which leads to the emergence of the global digital nervous system. Levy (1997) even perceives this trend as the birth of "collective intelligence," which develops a new world of mankind, based on cyberspace. This new world is being planned to work as the computing utility, where computing power could be as simple to tap as electricity from a socket. Sensor networks already begin to track everything from weather to inventory, stirring popular fears of governmental and corporate intrusion. The broad application of mobile devices, cellular phones, wireless devices leads to the connected individual anywhere and anytime (WiFi).



Furthermore, marrying electronics and biology promises new devices that could transform million of lives. Right now, most bio-artificial organs are meant as temporary solutions until the patient receives a human organ. Ultimately, scientists want to “grow” living tissue that will eliminate the need for a transplant. These new technologies will force us to change our approach toward how we define life, culture, and civilization. What is gained and what is lost by being digital is answered by the Krokors (1997) in their fascinating book under a very meaningful title “*Digital Delirium*.” Grossman (1995) thinks that we are even building the Electronic Republic, where democracy is being redefined by information-communication processes.

Therefore, the role of technology cannot be ignored in discussion on civilization. One of the first who understood this role very well was Lewis Mumford (1966), who in his book *Technics and Human Development*, goes back to the origins of human culture and does not accept the view that man’s rise was the result of his command of tools and conquest of nature. Mumford demonstrates how tools did not and could not develop greatly without a series of more significant inventions in ritual, language, and social organization. Mumford and McLuhan (1962), both great philosophers of technology, did not live to see the information-communication revolution (late 1990s) and could not extend their findings about the role of electronic information-communication processes in civilization. The modern role of technology is marked in the world-system model of production in Figure 1-8.

## THE EMERGENCE OF CIVILIZATION

Civilization had been growing gradually along with the cultural and industrial development of man as *homo sapiens* during the last 200,000 years. About 40,000-50,000 years ago, humans

underwent a very important genetic mutation, when the DRD4 gene was developed that encodes the dopamine neurotransmitter. It is this neurotransmitter which is responsible for human personality traits (Ding et al., 2002). In such a way, humans became more intellectually alert and as a result developed increasing capacities for leadership and socializing. Fortunately, the climate warming that occurred around 10,000 B.C. [3] helped humans demonstrate their more developed societies, allowing them to migrate across continents and form the beginnings of infrastructure. Some time after 10,000 B.C., people became farmers, animal breeders, and pottery makers. When the Ice Age ended in about 8,000 B.C., the warmer climate was friendlier for humans and their civilizing processes. In the years between 8,000 and 6,000 B.C., sheep, pigs, cattle and other livestock were domesticated and more people were settling in the Euphrates-Tigris river valley. Around 7,500 B.C., villages were growing in nearby Anatolia.

Growing populations required more food and more productive farms, which led to the development of irrigation systems and work specialization. The latter and other kinds of non-farming tasks in 5,000 B.C. led to the rise of elites, which were living in towns and worshiped in temples. Eventually about 4,000 B.C., city-states were formed in Mesopotamia. One of these was Uruk, where several thousand people lived, with crafts, architecture and writing. These city-states were united under power-keeping dynasties and led to the creation of the Mesopotamian civilization, the first historic example. According to Toynbee (1995), there were about 26 different civilizations. Nowadays, these have eight heirs: the Chinese, Japanese, Western, Eastern (“Orthodox Christian,” or “Byzantine-Russian”), Islamic, Buddhist, Hindu, and African civilizations. All these interact with the emerging global civilization.

A model of the process by which civilizations emerge is shown in Figure 1-1.