

## The Final Empire

### CHAPTER 2

#### THE END OF CIVILIZATION

If the planet and the human species are to survive we must create paradise. We must restore the life of the earth. The only way that the planet can heal itself is for the soils of the earth to be restored along with the ecosystems that will maintain those soils. To do this, human culture must undergo transformation from a culture of suicide and immediate gratification of immature impulses for material goods into a culture focused on life and wisdom, a culture of paradise.

We must get below the threshold of consciousness of civilization and examine the real basis of the life of the earth- the soil. All of us have to struggle to throw off the mind conditioning that we have received in civilization. Our reality molding would have us believe that there are environmental problems such as toxic chemicals, radiation and acid rain. The fact is that our life crisis began with empire/civilization. The environmental crisis began thousands of years ago, when the Han Chinese began to destroy the vast forests of China and when the Indo-Europeans began to overgraze the vegetation and exhaust the soils of central Asia. For two to three million years humans lived on the planet in a stable condition; then suddenly with the cultural inversion to civilization, the earth began to die. Civilization is the environmental crisis and the loss of topsoil is our measure of the etiology of the disease.

The materialistic values of civilization teach us that the accumulation of wealth is progress. The material wealth of civilization is derived from the death of the earth, the soils, the forests, the fish stocks, the "free resources" of flora and fauna. The ultimate end of this is for all of the human species to terminate in giant parasitical cities of cement and metal while surrounded by deserts of exhausted soils. The simple polar opposites are the richness and wealth of the natural life of earth versus the material wealth of people living out their lives in artificial environments.

In order to accurately assess the planetary condition, the ecological survey that follows will first focus on the basic reality, the soil. It will then examine the health of the planetary forests. Then will follow an examination of the greatest ecological disaster, agriculture. We will focus on these matters because these are the basic and enduring damages and unless these are set right, there can be no recovery. Then the focus will turn to the last phase of civilization, the destruction caused by industrialization. Industrialization poses dangers stretching from poisons to planet-wide imbalances such as the greenhouse effect. Here we will see in detail how the options are rapidly narrowing for the human family as soil erosion, overgrazing and deforestation continue their inexorable spread throughout civilization. In the past few centuries, industrial society has provided a swift push toward the climax. The seminal study, *The Limits to Growth: Report For The Club Of Rome's Project On The*

*Predicament of Mankind*, shows how the dynamics of industrial society point us toward the final paroxysm.<sup>1</sup>

The Limits to Growth study was done in the early 1970's by an international team of scholars at Massachusetts Institute of Technology (MIT). The team, which came from many diverse disciplines, isolated the dynamic and interactive movements of the five basic factors of industrial society: resources, food per capita, population, pollution and industrial output per person.

The standard- model computer run of all of these factors show that industrial society will begin its swift collapse sometime in the 2020's. Here we quote the authors statement concerning the "World Model Standard Run:"

"The 'standard' world model run assumes no major change in the physical, economic, or social relationships that have historically governed the development of the world system. All variables plotted here follow historical values from 1900 to 1970. Food, industrial output, and population grow exponentially until the rapidly diminishing resource base forces a slowdown in industrial growth. Because of natural delays in the system, both population and pollution continue to increase for some time after the peak of industrialization. Population growth is finally halted by a rise in the death rate due to decreased food and medical services."<sup>2</sup>

The standard extrapolation of the growth curves since the 1900's can easily be drawn out to the end, though chances are very good that war, depression, nuclear disaster, or eco-catastrophe will occur sometime before then. We live in a material civilization. We can count the barrels of oil, we can count the acres of wheat fields, and we can count the number of people. All the scholars who created the MIT study did, was to put all of the numbers from all of the scholarly fields on computers and extrapolate. The thing the computer cannot do is anticipate unpredictable breakdowns in the world system.

The scholars did examine the possibilities of averting disaster (which assumes a very unlikely world society, nimble enough to coordinate a survival strategy). The scholars programmed the computers so as to double the estimated resource base, they created a model that assumed "unlimited" resources, pollution controls, increased agricultural productivity and "perfect" birth control. None of these or other aversion strategies could take the world system past 2100.

The reason that the world system cannot go on with unlimited growth is because each of the five factors is interactive. If we assume unlimited fuels such as a simple fusion process, this simply drives the growth curves faster. There is more cheap fuel so the wheels of industry churn faster and resource exhaustion comes more quickly, population continues to climb and pollution climbs. If there is more food production, then population climbs and resources are exhausted more rapidly. If population is stabilized, resources still continue to decline and pollution increases because of increased consumption. If the factors of resources, food, and industrial output grow then population grows but the resulting pollution creates the negative feedback of having to maintain cancer hospitals and institutions for the birth defected and mutations caused by pollution as well as pollution damage to factors such as farm crops.

Growth had been the fundamental pattern of the culture of civilization long before Alexander conquered the "known world." The difference now is that the growth is approaching its outer limits and soon will have nothing left to feed on. We have come to the final cycle in which civilization will fall into entropy because it cannot any longer be sustained. There are no more virgin continents to exploit. There are few remaining forests to cut down so that new soils can be exploited and exhausted. In addition to this, the world population is now counted in the billions. The world has never before known this kind of exponentially increasing volume of flow and consumption of food, resources and industrial poisons.

Because of these interactive forces world society is trapped within a system of cultural assumptions and patterns of behavior from which it cannot extricate itself. There is no way out. There will be a collapse of civilization. There is no question that there will be future famines in the ecologically devastated and desertified region of Ethiopia with its exploding human population, just as there is no question that civilization which eats up its resources and poisons the earth, will collapse. We are examining the process now in order to gain knowledge, because we are the people who will be attempting to live through the climax.

### **An Inheritance of Destruction**

Life on earth has a long history. Bacterial microfossils have been discovered associated with some of the oldest unmetamorphosed rocks, which are 3.8 billion years old. We know that at least twice in this history, life has faced ecological catastrophe roughly equal to the one that we now are in. The first massive die-off was when cyanobacteria evolved, exhaling oxygen, and poisoned vast numbers of creatures. The second die-off, 65 million years ago, was the well known period when dinosaurs became extinct.<sup>3</sup> After immense periods of time in which life proliferated, the human form appeared on earth. The fossil record, as unearthed in the Oldavai Gorge in Africa by the archeologist family, the Leakeys, goes back three million years. According to anthropologists, for that period of time, 99 per cent of human existence, we have been forager/hunters. Suddenly, and only an eyeblink in time of approximately ten thousand years, a different social form irrupted among the humans. This form is the monolithic and hierarchic social form known as empire.

We are now assembling information on a third cataclysm to face life on earth, the age of human empire and its final apocalypse.

The culture of empire, which also travels under the euphemism, civilization, is the cause of the third event. The culture of empire is characterized by ecological imbalance caused by cities, centralization, hierarchy, patriarchy, militarism and materialism. We find aspects of this cultural form among the Aztecs and Mayans of Meso-America, the Incas of Peru, Certain African kingdoms, the Egyptian dynasties and a few other locations. The most virulent strains of this cultural pathology developed in China, the Indus River valley and in Central Asia among the Indo-Europeans. It is the inheritance of this cultural form that is destroying the earth.

## **China**

J. Russell Smith, author of a classic permaculture text, *Tree Crops: A Permanent Agriculture*; gives a characteristic picture of the land occupied by the old Asian empires:

"I stood on the Great Wall of China high on a hill near the borders of Mongolia. Below me in the valley, standing up square and high, was a wall that had once surrounded a city. Of the city, only a few mud houses remained, scarcely enough to lead one's mind back to the time when people and household industry teemed within the protecting wall.

"The slope below the Great Wall was cut with gullies, some of which were fifty feet deep. As far as the eye could see were gullies, gullies, gullies-a gashed and gutted countryside. The little stream that once ran past the city was now a wide waste of coarse sand and gravels which the hillside gullies were bringing down faster than the little stream had been able to carry them away. Hence, the whole valley, once good farmland, had become a desert of sand and gravel, alternately wet and dry, always fruitless. It was even more worthless than the hills. Its sole harvest now is dust; picked up by the bitter winds of winter that rips across its dry surface in this land of rainy summers and dry winters.

"Beside me was a tree, one lone tree. That tree was locally famous because it was the only tree anywhere in that vicinity; yet its presence proved that once there had been a forest over most of that land- now treeless and waste."<sup>4</sup>

At one time nearly half of China was forested. The famous agricultural scholar, Georg Borgstrom estimates that 670 million acres of China were once covered.<sup>5</sup> This forest, with its complex ecosystem was gone almost before written history. There is no doubt that it contained many species that became extinct and of which we will never know. One major consequence of the denudation of the vegetation of China is that its major rivers now carry more silt than any other river system in the world and the stories of the floods in China are as old as the Chinese empire.

## **Indus River Valley**

The Indus River valley of western India once hosted an empire. Some one thousand years before the Chinese began the ecological destruction of China an empire existed in this area that is dated between 2,500 BC and 1,500 BC Evidence suggests that this was a forested region with an ecology that among other things contained elephant, rhinoceros, water buffalo, tiger, crocodile, bear, goose, lizard and tortoise.

Edward Hyams, in his study, *Soil and Civilization*; indicates that the forest was cleared for agriculture, the fuel needed for the firing of mud bricks and the smelting of metals. This plus soil exhaustion created the destruction of the ecology and the implosion of the empire. This means that much of the area of the former empire of the Indus River valley was forest and it is now semi-arid desert. While this seems at first

like an unlikely change, Hyams points to examples from Australia where that change has happened in the past hundred years. He says:

"The present vegetation of Sind is tamarisk and scrub. In not dissimilar climatic conditions in Australia in our own times, such a vegetation has sprung up upon soils rendered semi-arid by forest clearance, by overstocking with cattle, or by soil-fertility 'mining' with wheat."<sup>6</sup>

### **The Indo-Europeans of Central Asia**

Some seven thousand years before the present, the origin culture of what we now call the Indo-European language group, domesticated wheat and barley, which were wild plants of the region of the Caucasus Mountains. They also domesticated sheep and goats. This was the beginning of the culture of empire in Central Asia. The history of this culture along with the culture of the Han Chinese leads right down to the present day.

From Afghanistan, through northern Persia to central Turkey the mountain areas have been deforested and eroded to the point that they are now simply bare, arid ranges.<sup>7</sup> Grazing, deforestation for smelting, heating and cooking, and trees removed for agriculture are the chief culprits that have destroyed the soils and the ecology. The soils of Central Asia and the Mid-East have gone to the ocean. Massive erosion of soils on the watersheds of the Tigris-Euphrates river system was created by at least five thousand years of imperial abuse. Scholars calculate that the erosion material from this watershed has filled in the Persian Gulf for one hundred and eighty miles in the last forty-five hundred years. An area of more than 2,000 square miles has been filled. Prior to the empires, the Tigris and Euphrates had separate mouths that emptied into the Persian Gulf.<sup>8</sup> Throughout this region we can see what will be the final stages of the whole of civilization.

After the forests are cut and the grasslands overgrazed, plant regimes from drier environments move in. Spiny and thorny brush move in along with the hardier, tougher grasses. As the region continues to be razed for firewood and goat fodder, the harder layers of subsoil are exposed. Finally, the hard surfaces of desert pavements form. As hard subsoil and bedrock are reached a moonscape is created from which no recovery is possible.

### **The Empires of Greece and Rome**

As we follow the denudation of the Mediterranean area, we see that Greece was well advanced toward ecological destruction early in that country's imperial career. Many of the wars of conquest were simply to gain new forests for use in building warships. Author David Attenborough describes the type of effects caused by the denudation of the Greek mainland:

"Thermopylae, on the Greek coast, was the site in 480 BC of one of the most heroic battles in ancient history. A tiny detachment of Greek soldiers, commanded by the king of Sparta, held a narrow pass between the sea for three days against a huge Persian army. Today, that pass no longer exists. The soil from the hills above has been

washed down by the rivers and deposited at the edge of the sea in such quantities that the pass has been transformed into a wide plain."<sup>9</sup>

One of the colonies used to gain shipbuilding lumber was Ephesus on the western coast of Turkey. By the fourth century, BC the harbor was so silted because of deforestation and soil abuse in the uplands that the harbor had to be moved farther along the coast. The new harbor quickly filled in and the location now is three miles from the Mediterranean.<sup>10</sup> In Italy and Sicily soil destruction has been epidemic. "The Italian coast from south of Ravenna; north and eastward almost to Trieste has been extending itself into the Adriatic Sea for at least twenty centuries," one scholar reports. The city of Ravenna, once on the coastline is now six miles inland.<sup>11</sup>

The impact of the successive empires on the "breadbasket" of North Africa has been to destroy it. Both Greece and Rome used the luxuriant North Africa as a mainstay of empire. Finally the Arab, Ottoman Turks and other minor empires destroyed the last shreds of the ecology. At one time six hundred colonial cities stretched from Egypt to Morocco and the area provided Rome with two-thirds of its wheat budget. Now much of the area is barren, eroded and can hardly support goats.<sup>12</sup>

It is no accident that now the diet of these former empires is based on goats, grapes and olives. This is ecological poverty food. As these cultures have destroyed their lands, the plants and animals that remain such as goats, grapes and olives are ones that can subsist on denuded and dry soils.

This brief review of the original areas of civilization can help us visualize what the earth will eventually look like in most areas where that human culture has spread. But, because of our massive modern population and technology, the destruction that took place over thousands of years is now being accomplished in very brief time spans. The ecological destruction has not stopped even now, but in the present continues on, headed for bedrock.

#### NOTES:

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2. *ibid.* p. 129.

3. *1990 Catalog of Seeds*. A.M. Kapular, PhD. Peace Seeds, A Planetary Gene Pool Resource and Service. 2385 SE Thompson St., Corvallis, Oregon 97333. P.1.

4. *Tree Crops: A Permanent Agriculture*. J. Russell Smith. Devin-Adair Co., Old Greenwich. 1977. P.3.

5. *The Hungry Planet: The Modern World at the Edge of Famine*. Georg Borgstrom. Collier Books. New York. 1972. P. 106.

6. *Soil and Civilization*. Edward Hyams. Harper & Row. New York. 1976. P. 69.

7. *ibid.* pp. 55-64.

See also:

*Man and the Mediterranean Forest: A History of Resource Depletion*. J. V. Thirgood. Academic Press. New York. 1981. P. 62.

And

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8. *Man's Role In Changing The Face Of The Earth*. William L. Thomas, Jr., Ed. U of Chicago Press. Chicago, Ill. Vol. 2. P. 510.

9. *The First Eden: The Mediterranean World and Man*. David Attenborough. Little, Brown & Co. Boston. 1987. P. 169.

10. *ibid.* p. 118.

11. Thomas, *op. cit.* P. 511.

12. Attenborough, *op. cit.* P. 116.