

EVOLUTIONARY WATERSHEDS AND THE FUTURE OF HUMANKIND

Biological evolution

The evolution of life on Earth has been marked by a series of highly significant watersheds, or turning points, each of which changed the living world for ever.

Especially important among these watersheds were the development of photosynthesis, the appearance of cells with nuclei, the development of multicellularity and the invasion of land by life forms.

The most recent crucial watershed in biological evolution was the emergence of the human capacity for language and culture. Human culture eventually developed into a new and extremely powerful force in the biosphere – with far-reaching ecological consequences. This has resulted in an entirely new state of affairs on our planet.

Cultural evolution

Cultural evolution has also been marked by a series of watersheds, each of which ushered in a new ecological phase of human existence.

The first of these cultural watersheds was knowledge of how to make use of, and, up to a point, control fire. The deliberate and regular use of fire was an important feature of ecological Phase 1 of the history of our species, the hunter-gatherer phase. This phase lasted for around 8000 generations.

The second crucial watershed was the advent of farming. It led to ecological Phase 2, the early farming phase, which began some 480 generations ago. This was indeed a turning point in cultural evolution. Without it, the spectacular developments in human history since that time would have been impossible.

The third crucial watershed in cultural evolution was the advent of urbanisation – beginning around 300 generations ago – but really getting underway about 250 generations ago.

This development ushered in ecological Phase 3, the early urban phase of human history. For the first time large clusters of people were separated from the natural environment and played no part in the acquisition or production of food. People no longer felt part of nature, and urban cultures evolved that regarded the natural world as alien and threatening.

The fourth cultural watershed consisted of the philosophical movement referred to, misguidedly, as the Enlightenment, and the subsequent Industrial Revolution. We say misguidedly because a more appropriate term would be Partial Enlightenment. Its great weakness lay in its association with the idea that nature is out there to be conquered.

This fourth cultural watershed led to ecological Phase 4, the techno-industrial or high consumption phase. This phase has resulted in huge changes in the ecological relationships between human societies and the rest of the living world. It has seen a massive increase in the human population. There are now about 1400 times as many people alive as there were when farming began. 80% of this increase has occurred in the past 100 years.

Not only are there 1400 times as many humans in existence, but these people are using vastly more resources and energy *per capita* and are responsible for the release of vastly more technological waste than were their pre-farming ancestors.

The human species as a whole is now using about 18,000 times as much energy every day as was the case when farming began. This is equivalent to the difference in weight between a small apple and a couple of tonnes of bricks; and well over 90% of this increase has occurred in the past 100 years.

The human population is now responsible for the emission of about 9000 times as much carbon dioxide as was the case when farming began. Again more than 90% of this increase has been in the last 100 years.

We don't have to be ecologists to appreciate that the living systems of our planet which support humankind will not be able to tolerate this onslaught for ever. At present climate change is the most critical issue – but there are many other serious ecological threats to

sustainability. Humans are overstepping the mark in a big way. If present trends continue unabated the collapse of civilisation is inevitable.

The days of ecological Phase 4 are numbered.

The most disturbing feature of the present situation is the fact that the dominant cultures of the world are blissfully unaware of these ecological realities. They have lost sight of our total dependence on the life processes that underpin our existence, and they have no grasp of the kind, magnitude and seriousness of current human impacts on the ecosystems of our planet.

The worldviews, assumptions and priorities of these cultures are completely incompatible with the achievement of ecological sustainability.

Hope for the future

So it is clear that the only hope for humankind lies in the possibility of a fifth watershed in cultural evolution – leading to an ecological Phase 5 – a phase based on understanding the human place in nature. Phase 5 societies would be in tune with, sensitive to and respectful of the processes of life.

We can call this watershed a cultural ‘renaissance’ – or ‘biorenaissance’ – because many hunter-gatherer and early farming cultures in the past shared this philosophy. That is, they were characterised by deep respect for the living world and appreciation that we humans are part of nature and completely dependent on other forms of life for our wellbeing and survival.

In other words, the survival of civilisation will depend on the dominant cultures across the planet coming to embrace a sound understanding of the story of life and how humankind fits in to this story. We refer to this kind of understanding as ‘biounderstanding’.

Therefore the most urgent and critical need right now is for an international campaign to spread biounderstanding globally. UN agencies have the obligation and means to play a key role in this movement. In the meantime, individuals and NGOs can start the ball rolling by promoting biounderstanding throughout the community, especially among those in positions of power and influence.

The survival of civilisation, and perhaps of the human species, will depend on whether or not this fifth watershed in cultural evolution takes place.

WATERSHEDS IN CULTURAL EVOLUTION

Cultural watersheds and approximate starting date	Followed by
Use and control of fire 200,000 BP ?	<u>Ecological Phase 1</u> <i>The hunter-gatherer phase</i>
Farming 12,000 BP	<u>Ecological Phase 2</u> <i>The early farming phase</i>
Urbanisation 8000 BP	<u>Ecological Phase 3</u> <i>The early urban phase</i>
“Enlightenment” and Industrial Revolution 250 BP	<u>Ecological Phase 4</u> <i>The high-consumption phase</i> Unsustainable ecologically Leading to the collapse of civilisation, with great loss of life – <u>Unless</u>
? New Enlightenment ? (Biorenaissance)	? <u>Ecological Phase 5 ?</u> <i>A new biosensitive phase</i> Based on understanding the human place in nature In tune with, sensitive to and respectful of the processes of life