

An in depth ecological study of priorities for survival

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The following are topic areas. Each of them can be one lecture, or they can be expanded into two or more, depending on requirements.

Mon Oct. 23. - 18:00-19:40, U23

Introduction: A most dramatic period in the life of the planet.

Never before have there been so many large animals of a single species, as humans. In this first lecture I review the extraordinary rise of our species and what this could mean for the future. We are also the first and only species that is aware of its situation and is having to consciously control itself.

Tue Oct.24. - 14:00-15:40 U35

Civilisation runs on Natural Capital.

All civilisations have squandered the accumulated wealth of the biosphere and either moved on or died out. We remain hunter-gatherers, but of the means of production instead of the products. The planet's ecosystem services continue to provide at least twice the value of the world's gross national product. Most people's ethos and daily decisions, like those of governments and bodies for economic globalisation, have both enabled success and ensured continuing ecological degradation. Can we now become stewards and reverse this ultimate contradiction of civilisation?

Wed Oct. 25. - 16:00-17:40, U32

Energy and Order is the Ultimate Currency.

All life including human activities exists by the continuous dissipation of energy. Order, structure, culture and knowledge are the products. The stocks and flows of energy in the biosphere maintain equilibrium on Earth. Money measures neither these ultimate resources of nature nor the ultimate aspirations of humankind. Energy is the more down to earth currency; and accounting of resources and renewability must complement economic accounting. The cooling towers of power stations are monuments to the 2nd Law of thermodynamics and monuments to folly.

Thu Oct. 26. - 16:00-17:40, U32

Nothing Exceeds like Success

The excess and waste of society stretch beyond the limits to growth. Yet society continues to promote growthmania, of the population, the economy and consumption. This does not prevent but causes poverty. Excesses work against co-operation and make the tragedy of the commons world-wide. Negative feedback is a positive boon; a stationary economy would not limit human development. Conventional Wisdom is challenged: how can we change without creating yet more excesses in the means of achievement? Alternatives include a new economics and the developments of appropriate technologies. Over-use of antibiotics illustrates the problem and Regenerative Agriculture a solution.

Mon Oct 30. - 18:00-19:40, U23

Science speaks the Truth and nothing but the Truth but nowhere near the whole Truth.

The power of science lies in the isolation of individual actions to learn how they work. But biology and ecology are about interactions that create a working whole. Isolating the components is intervention that changes the system; it may show how something CAN work but not how it DOES work. Observation without intervention provides a truer picture. Almost all agricultural science is based on trials of intervention. Teaching the discoveries of the last two centuries increases knowledge at the expense of understanding, exacerbated by the take-over of science by corporations. A curriculum that changes the emphasis to one of questioning and discovery is urgently needed, for better public and political understanding of science and ecology.

Tue Oct 31. - 14:00-15:40 U35

The Two sciences (Part 1)

The rise of science and technology is usually blamed for pollution, degradation of nature, challenges to health and most of the ills that face society. So over much of the richer developed world, the benefits are not perceived as much as the problems. An anti-science attitude has arisen. Therefore this lecture traces the history of the rise of science from the point of view of its impact on the world and of the public perceptions of its values.

The development of modern agricultural science is used as an example to show how this has followed an old tradition, and that quite a different application of biology leads to a broader and more valuable scientific approach. Biological science up till now has followed the methods so successful for physics and chemistry. This is the old science. The new science needs another name, like “natural philosophy” and can lead to more successful applications. It may be that this new natural philosophy will revitalise science and bring new and better public appreciation.

Wed Nov 1. - 16:00-17:40, U32

Panarchy – the nature of ecological systems

Ecological systems are complex. This title was coined by C S Holling for his book. One has monarchies, ruled by one (king), oligarchies ruled by several, and **Panarchies**, ruled by all. Ecosystems are like the latter. Their stability is usually threatened by human management. This talk examines the properties of ecosystems, their resilience and how management leads to fragility and “brittleness”.

Thu Nov. 2. - 16:00-17:40, U32

The European arguments over Genetic Engineering

The debate about GM crops depends on both the science and politics, and corporate interests. We look at examples about how these conflict. In particular the current European debate about “Freedom of choice” between conventional, organic and GM crops, and how this is a spurious choice

Mon Nov 6. - 18:00-19:40, U23

Discussion with photos from many places,

Tue Nov 7.- 14:00-15:40, U3

Old Assumptions and new Directions of Progress are Questioned

Development, of organisms, ecosystems or society, follows a path: there is a consistency in direction, a “homeorhesis”. Many societies have called their flow ‘The Way’. The flow of industrial civilisation is based on assumptions (‘myths’) acquired over the centuries of successful growth. While those experiences were relevant in their time, many are now out of place. There may be faults in human nature, but did we have to set up social institutions that favour the worst? The means to harness Natural Capital to meet fundamental human needs depends on communities integrating with their ecosystems. Humanity is obliged to be stewards and agriculture must become Agri-Culture. **This last meeting should be a general discussion, how to change direction, what are the leverage points?**