

Understanding the environment: problems with the way we think



Understanding the environment: Problems with the way we think



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This free course provides a sample of level 2 study in Environment & Development

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The Open University, Walton Hall, Milton Keynes, MK7 6AA

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Introduction

This course will facilitate your exploration of a viable way of life by identifying actions that individuals can take to reduce environmental impacts while sustaining community well-being. You will be required to develop a worked example of how to go about doing this based on your own experience. In particular, you will explore how identifying a balance between reducing environmental impacts and sustaining community well-being should be an ongoing learning process.

This OpenLearn course provides a sample of level 2 study in [Environment & Development](#)

Learning Outcomes

After studying this course, you should be able to:

- demonstrate developed verbal, visual and mathematical models that explore a personal ecology and quality of life
- reflect on the implications of using such models to inform personal thoughts and actions.

1 Course outline

1.1 Aim

The activities and resources in this section engage you in an interdisciplinary investigation of your personal ecology by looking at a range of temporal, spatial, and organisational scales – from the personal to the global, from the short term to the long term. The aim is to gather evidence to help you reflect on your values and actions.

1.2 Readings

This free course tackles head-on the hypothesis proposed in this block linking reductionism with unsustainable practices. Reading 3.1 looks at the philosophical roots of reductionism and provides an example of the 'tragedy of the commons' – a familiar outcome of this way of thinking.

Reading 3.2 opens the debate with regard to what all of us are concerned with: how do we characterise and measure the quality of our lives? While most of modern society has been obsessed with the reductionist isolation of quality of life indicators to economic and material-based measurements, readings 3.3–3.5 refocus the quality of life debate within the context of finite resources of a small planet. Reading 3.6 introduces you to the need for a 'reality check' – a requirement to collect evidence to validate and optimise your models. The development of indicators and indices, such as the ecological footprint index described in Reading 3.7, are powerful tools in creating crucial information flows between our day-to-day lives and our environmental impacts.

1.3 Activities

In Activity 3A, you will be exploring your 'personal ecology' – the relationship between the physical places within which you practice your various social roles. The aim here is to explore how subsystems (your personal ecology) combine to have often unpredictable effects on **supra-systems**. Activity 3B allows you to develop your own criteria for measuring your quality of life. The challenge here is to go beyond the isolated categories and develop a dynamic quality of life model.

Activity 3C allows you to estimate your personal ecological footprint – an alternative non-economic measure of your impact on Earth which ought to become an essential component in the 'observation' phase of a systemic learning framework.

2 Section readings – Problems with the way we think

Reading 3.1: Introduction to the problems with the way we think

The way in which we think, and the way in which we think about thinking in our Western tradition, can be traced back at least to Parmenides of Elea, a Presocratic Greek philosopher who lived around 500 BC. His influence on our thinking is hard to overestimate – from it grew the notion that what can be known must be real, and what is real is eternal and unchanging. Though many others have contributed since, the Greek philosophers laid the foundation for the way in which we currently think about thinking. This is usually labelled '**reductionist thinking**'. It can be characterised by the idea that a thing, an entity, can be identified and characterised by various **attributes**.

So most of our thinking is dominated by **models** that exclude change, because at the foundation of Western thinking is this static model of an **object**. In general the object as perceived, whatever it is, will have particular fixed characteristics or attributes. This enables us to categorise these objects on the basis of their particular fixed attributes and so form classes of objects that can then be dealt with as objects themselves, and so on in a hierarchy of classes. This categorisation, and thereby the separating out of our models one from another, is at the root of many problems – just like the way that thinking about our own driving often does not include thinking about its effects on others, or thinking about a business often does not include thinking about all the effects of its waste.

Thinking that uses, and is governed by, this basic categoric model is successful because of its inherent flexibility, but also limited. In complex situations it can contribute to understanding, but often fails spectacularly. Any example of what is known in economics as 'the tragedy of the commons' (Hardin, 1968) will illustrate this.

For example, in the United Kingdom many North Sea fishing companies gradually enlarged the size and efficiency of their fishing boats to gain more fish for less expenditure. Thereby the companies maximised their profit, and achieved success competing in the market for fish and fish products. But unknowingly, each of these companies became more and more intimately connected as they depleted the fish stocks of the North Sea. When the companies were small, and the total catch was small in comparison to the fish stock, an increased catch by one company made no difference to the others. So the companies could, and did, operate independently. But once the overall catch increased to beyond the rate at which fish were naturally replaced by their reproduction, fish stocks declined. And as the companies increased their catch, they were no longer operating independently. When one company increased its catch, inevitably another suffered a decreased catch. The only way the companies could save themselves was to put in place formal relationships between themselves that would limit each company's catch. If they did not, some would not survive. And the longer they ignored this requirement, the more companies would fail as fish stocks dwindled. The problem was that the model that the directors of each company had of their operation, competing

independently in the market, failed because it neglected the growing intimate connection between the companies as the stocks dwindled.

Even if decision makers do take into account the relationships between the parts, this does not necessarily help. The history of the fishing industry shows that the companies themselves could not come to an agreement – the pressures as seen by the directors of the companies were for them to take more than their share of available fish, their goal was to 'compete successfully'. And even when laws designed to benefit all were imposed by the governments concerned, the companies continued to protest against these laws. No monitoring system could prevent them from destroying the fish stocks and themselves, whilst their models remain reductionist.

Reading 3.2: Quality of life

Unlike non-living systems, all living systems have behaviours that have evolved to achieve a certain purpose. Charles Darwin was able to crystallise the key purpose of living systems through his theory of natural selection. This stated that the aim built into every living organism is to 'leave offspring in the next generation'. For the human race the results of this are startling. In just under 200 years, from 1804 to 1999, the human population has increased from 1 billion to 6 billion (United Nations, 1999). This success implies that the human species has moved beyond immediate survival concerns and has developed other criteria to judge success in their lives. Yet, this advance is not equally distributed. According to The United Nations Children's Fund, 10.6 million children died in 2003 (UNICEF, 2005), and things have changed little since. Some families are therefore still very much concerned with leaving offspring in the next generation.

Contrast the child mortality rate experienced by many families in developing countries with what is happening in British families. In its May 2007 issue, the *Ecologist* magazine published the startling facts under the headline 'Happy families?':

- One in every four households no longer has a table that everyone can eat around.
- Britons put in 36 million hours of free overtime each year, with one in three refusing to take all their holidays, fearing a backlog of work once they return.
- Parents are splashing out more than £100 a month on treats for their children to compensate for a lack of quality time with them.
- Three-quarters of Britain's 11 to 14 year olds have a television in their bedroom, almost two-thirds a DVD player or a video recorder, a quarter have a computer in their room, and 80 per cent have their own mobile phones.
- There is one acre of play space for children for every 80 acres of golf course in the UK. In the past eight years, playing fields have been lost at the rate of one a day.
- As many as 30 per cent of children never play outside without an adult watching over them.
- In 2005, around 359,000 children were prescribed Ritalin and 130,000 children were prescribed SSRI antidepressants.

This data raises many issues, for example if you described these as '**quality of life**' indicators for families in the UK, you might consider that they show a significant improvement on the high child mortality experienced by many families in developing countries (see Figure 3.1). Yet, the last item of information indicates that many of these children do not necessarily get a lot of satisfaction from their DVDs!

