

introduction

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From the start of the Industrial Revolution more than 200 years ago, developed nations have achieved ever greater prosperity and higher living standards. But through this period our activities have come to affect our atmosphere, oceans, geology, chemistry and biodiversity.

What is now plain is that the emission of greenhouse gases, associated with industrialisation and strong economic growth from a world population that has increased sixfold in 200 years, is causing global warming at a rate that began as significant, has become alarming and is simply unsustainable in the long term. And by long-term I do not mean centuries ahead. I mean within the lifetime of my children certainly; and possibly within my own. And by unsustainable, I do not mean a phenomenon causing problems of adjustment. I mean a challenge so far-reaching in its impact and irreversible in its destructive power that it alters radically human existence.

*Tony Blair, Prime Minister, 14 September 2004*¹

1 Speech to the Prince of Wales Business and the Environment Programme on its 10th anniversary.

Sustainable development is about time. The origin of this book came from a sense that by exploring the relationship between time and sustainable development we could inspire, agitate and challenge readers to take different perspectives on the problems the Earth faces in the 21st century. We decided to ask experts to think about different aspects of time: from the long time spans of the cosmos to the instantaneous globe-spanning reaction of electronic systems on the Internet, from environmental degradation to work-life balance, politics to ethics — all issues critical to the long-term sustainability of life on planet Earth.

Before we launch into an exploration of perspectives on time and the cosmos we would like to suggest some thoughts you might wish to bear in mind, to use them as provocations as you read.

Taking time

Time is so deeply ingrained in our experience of the world and in our cultures that we barely think about it apart from the day-to-day grumbles about ‘never having enough’ or ‘how time passes!’ Think about the instances in the past day when your thoughts or words have involved time in any sense: wondering if you can stay under the duvet another ten minutes, rushing to catch a train that leaves at 07:50 perhaps, agreeing to meet over coffee ‘in five’ or suggesting going for a drink next week. This tends, therefore, to fix our attention on only one aspect of time, one means of appreciating it that is constrained and, at times, even lazy: the here and now.

Think back two generations. There are people you know who will have met people born before the American Civil War

Yet with only a little attention we can recalibrate our perspective. To take a good look back in time you need only look up at the sky on a clear dry summer’s evening. There you will be greeted with visions of the past: stars as they were tens, hundreds and thousands of years ago: light that, in some cases, left a burning star deep in the

Milky Way before Earth's first civilisations emerged. And you are seeing it now, in the star's future.

Alternatively, think back two generations. There are people you know who will have met people born in the mid-19th century – before the Great Exhibition, the American Civil War, the publication of Darwin's *On the Origin of Species* and long before the invention of aircraft and automobiles. More significantly, flip this forward and you may one day know people (depending, of course, on your current age and life expectancy) who will be alive well into the 22nd century – feasibly in the year 2155 and beyond. The phrase 'future generations' somehow conjures up a world beyond our lifetimes, yet many people live to see their great- and even great-great-grandchildren. How sobering this is when we find it quite difficult to think about the world just five or ten years hence.

Yet there can be no doubt that a longer-term approach to thinking about the world and its sustainability is necessary. Put bluntly, the 'use now, pay later' model of current economic development is using more resources, more quickly than ever before. You are probably aware of the idea that, if the whole planet consumed as Europe does, we would need two or even three planet Earths. Serious and significant change is unavoidable whether we address the problems or not, yet conceiving of such change is as difficult as imagining the world 150 years from now. The human tendency in such situations is often to feel so daunted that, like the proverbial ostrich, we bury our heads in the sand. Yet it will only be through small efforts to imagine time differently, to address the problems at an individual human level, that anything can be done. As the Chinese philosopher Lao Tzu famously stated around 2,500 years ago, 'A journey of a thousand miles starts with a single step.' Small movements can take us a long way and there is no time like the present.

Time, society and the environment

So, how did we get here? One significant change over the last century and a half has been the divorcing of humanity from a local rural environment. In the mid-19th century industrial Britain became the first major country (excluding small city states) to have a population residing predominantly in urban areas. Demographers suggest that now around half the world's population lives in urban areas.

The consequences of mass urbanisation go beyond the significant increases in consumption and travel. Unlike most office-based work, agricultural working patterns are dictated by the seasons – the earliest calendar systems were effectively agricultural technologies – and thus an appreciation of cyclical time patterns and their relation to the local environment is a crucial skill. As the Bible expresses it:

To every thing there is a season, and a time to every purpose under the heaven:

A time to be born, and a time to die; a time to plant, and a time to pluck up that which is planted.²

Meanwhile, as the farmer reads the seasons for the time to plant, the urban worker in a factory or office continues with activities little influenced by whether it is hot and dry or cool and wet outside. While in the rural environment there is an understanding of the seasonality of food, some direct link between the land you live on and the food you eat, in the urban environment this link is broken – summer fruits are available all year round. There is no longer a time for asparagus, a time for strawberries.

The cultural ties binding time, society and the land are disintegrating in the predominantly urban society

Moreover, the cultural ties binding time, society and the land are disintegrating in the predominantly urban society, particularly in a society that has less time for organised religion.

2 Ecclesiastes iii, 1-2.

In an agricultural society the very nature of the year is reinforced by ritual and festive celebrations. Many cultures have winter festivals celebrating the winter solstice. Hanukkah is the Jewish 'festival of lights'; it features the ritualised lighting of candles. Diwali is the Hindu festival of lights. The coming of spring has its rituals (in Korea a three-day ritual is performed by *mansins*, shamans possessed by spirits, to celebrate the first blossoms of spring). Easter links the Christian celebration of resurrection with older celebrations of rebirth and fertility such as those of the pagans – 'the English word Easter and the German Ostern come from a common origin (Eostur, Eastur, Ostara, Ostar), which to the Norsemen meant the season of the rising (growing) sun, the season of new birth'.³ The ancient Greeks and Romans had harvest deities, as did the Egyptians, Mesopotamians and Celts, and the Japanese today. If you believe that the fate of the harvest, and thus life, lies with the power of a deity, you celebrate its success with thanksgiving.⁴ In the US there is Thanksgiving, when families return 'home' to celebrate (however romanticised) the staple foodstuffs of American-settler lore, the corn and the turkey.

Revd Canon Martyn Percy⁵ explains the modern origin of the harvest festival in the UK, dating it back to:

the Rev Robert Hawker, who, in 1843, building on Saxon and Celtic Christian customs, began to decorate his church at Morwenstow, Cornwall, with homegrown produce. Through the Victorian era, the festival was embellished and romanticised, probably in an effort to counterbalance the influence of the industrial revolution and secularisation.

- 3 F.X. Weiser, *Handbook of Christian Feasts and Customs* (New York: Harcourt, Brace & World, Inc., 1958): 211. Copyright 1952 by Francis X. Weiser; quoted by www.aloha.net/~mikesch/easter.htm.
- 4 The Greek for thanksgiving gives us the word 'Eucharist' – the Christian celebration of eating bread and drinking wine in remembrance of the gift of life.
- 5 Revd Canon M. Percy, 'A Harvest of the Spirit', *The Guardian*, 11 September 2004.

He goes on to add that the festival has ‘become slowly, but radically, politicised’ as ‘the emphasis has moved from thankfulness for our abundance to one of concern for those whose experience of provision is one of scarcity, or even outright starvation’.

Still, the fact remains that, for vast swathes of the urban world, harvest festival is a feature from school days and no longer an immediate feature that ties the locality and society to time and the environment. The consequence is seeing these as abstract issues to be addressed by others (politicians, business people, environmentalists) and not as questions to be tackled personally.

So, as the forthcoming chapters will suggest, the environment is a time issue, as are the economy and society. The contributors to this book were asked to consider particular aspects of time, written to stimulate thinking, challenge long-held views and opinions and to provide different perspectives on some age-old questions about the future of the planet. As an edited collection, the authors speak with different voices and from different perspectives, each designed to be read either on its own or as part of the whole; as a consequence, though we’ve attempted to reduce repetition, in a few places some overlap has been necessary.

Summary of the book

In his opening chapter, the astronomer Martin Rees offers his perspectives on time on the cosmic scale: how can we conceptualise billions of years? If we can do that, where does civilisation fit into the picture? What happens if we can go on for ever? What if we cannot?

He is followed by biologist Ghilleen Prance who takes on the idea of long passages of time, explaining how gradual changes in DNA have helped scientists measure the age of species. He goes on to explore how nature has developed genetic clocks intrinsic to the working of many species from Amazonian plants to you and I, and

how one species, *Homo sapiens*, seems determined to wreak havoc on the rest.

The problem according to Jonathon Porritt is the world's increasing population, with inevitable consequences for consumption. He calls for politicians to address the issue without recourse to technofixes – the assumption that a new technology will solve the problems of an old one. In fact, he contends, the ever greater speed of technology is divorcing humanity from the planet and other people, exacerbating the problems.

Not all humans are divorced from time in nature, however, argues writer Jay Griffiths. She contrasts the modern Western mind-set and its reliance on clocks and Greenwich Mean Time with cultures where time is more flexible and associated with the environment in which people live. As Griffiths writes of indigenous people, their approach to time is 'unpredictable, demanding flexibility, fluidity and quick co-ordination'.

Alexandra Jones and Will Hutton of The Work Foundation take as their starting point the relationship between time and money and posit three ways we could value time differently and more beneficially.

The idea that you can spend time is taken further by New Economics Foundation associate David Boyle. He describes the origins of time banks, arguing that thinking about time as a currency has massive potential implications for more than just volunteering: healthcare, regeneration and the links and connections that make society work as a whole. Sustainability is, of course, about a well-functioning society, not just a functioning environment.

And society as a whole is addressed by Geoff Mulgan, former head of strategy within 10 Downing Street in an updated version of his influential essay on time politics. Time, he suggests, is political: how people access services, run their lives and interact with society.

Public policy does not stand still, however. Last year's thorny ethical question may be widely acceptable some time in the near future. Philosopher Mary Warnock has more experience in this than most, having chaired the Committee of Inquiry into Human Fertilisation and Embryology in 1984. She examines two examples

where an awareness of the past and the future (respectively) are critical in developing an approach to an ethical dilemma.

As a number of the contributors note, technology is changing our relationship with time. In the final chapter James Goodman and Britt Jorgensen, with their unique insight into technology and sustainable development, challenge some commonly held perceptions about the impact technology is having on how we handle and experience time. Ultimately, could new technologies make us more sustainable than before?

To round the book off, the Social Market Foundation's Vidhya Alakeson has taken up the challenge of pulling together some of the common themes and recommendations from the book into a conclusion. However, it is time to return to the cosmos . . .