



PART I

Setting the Stage

The word *development* has a long history. The word *sustainable* is of more recent coinage. Nowadays, it is used in many different contexts and in, sometimes, bewildering ways: sustainable water, sustainable livelihoods, sustainable technology, sustainable cities, sustainable traffic, sustainable banking – and even sustainable growth. Derivatives like *sustainability* and *sustainable development* have undergone the same fate, often in unison with words like *green*, *bio* and *eco*. Yet, despite scepticism, criticism and proposals for alternatives, such as resilience and viability, the word sustainability seems to endure (although in sometimes unbearably diluted or perverted forms). I therefore use *sustainable development* in this book as the core term and, in Chapter 1, explore (the ideals of) development and sustainability.

The concept of sustainable development has a rather short history, which since its inception in the 1980s gradually broadened to encompass many aspects of (human) life. A crucial underlying flow is the changing perspective on the relationship between man and his natural environment. This was partly induced by scientific discoveries and insights. Science took the lead in defining and investigating earth processes and the role of human activities. It resulted in various branches of science, among them sustainability science. These three topics: history of the concept, the human–nature relationship and sustainability science are explored in Chapter 2.

1 Sustainable Development: A Personal and Societal Aspiration

1.1 Introduction

The concept of *sustainable development* was introduced to a broader public in the 1980s with the publication of the report *Our Common Future* by the United Nations (UN) World Commission on Environment and Development (WCED 1987), also named the Brundtland Commission after its chairperson. It built on rising concerns about environmental deterioration in rich countries and persistent poverty in poor countries of the world and on books and conferences, such as *The Limits to Growth* report (Meadows et al. 1972) and the UN *Conference on the Human Environment* (1972) in Stockholm. Their impact was reinforced by the two oil price crises of 1973 and 1979–1980 that confronted the industrial economies with their dependence on oil and, later, by the Chernobyl nuclear disaster in 1986.

The main conclusion of *Our Common Future* was that '*humanity has the ability to make development sustainable, to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs*'. It gave a long list of actions and policy directions in order to achieve the newly stated goal of *sustainable development*, noting that a world in which poverty is endemic will always be prone to ecological and other catastrophes. Upon reading this 35-year-old report, one is struck by the continuing relevance of the observations and recommendations.

Yet, there were valid criticisms. The report has been criticized for being too optimistic in its assessment of the physical **resource** base and the ecological absorption capacity (Duchin and Lang 1994). In retrospect, it can also be criticized for its overconfidence in the willingness and capacities of governments and corporations to act on behalf of the poor, the future and the public domain, and to cooperate internationally. As it happened, the fall of communist regimes, the rise of neoliberalism and unregulated financial capitalism and its resulting crises, and the ethnic-nationalist-religious reactions to Western-dominated globalization significantly changed the perceived urgency of and prospects for sustainable development. None of these had been anticipated in the 1980s.

Since the publication of *Our Common Future*, sustainable development has slowly become common vocabulary. The word 'development' is used to indicate growth, not only in quantity, but primarily in quality. The word 'sustainable' refers

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to something that can or should last. The idea of sustainable development has become one of the leading aspirations of humankind in the twenty-first century, not unlike the emancipatory ideals in the late nineteenth and early twentieth centuries and the *Declaration of Human Rights* formulated shortly after the devastating World War II. The nations of the world, acting in concert through the mechanism of the UN, elevated it in 2015 to its overarching framework with the formulation of the *Sustainable Development Goals (SDGs)*. After decades during which it was considered a sectarian issue among natural scientists, leftist social scientists and NGOs, nowadays respected business and government leaders hail it as the foremost challenge of the twenty-first century, with the support and protestations of what are now called civil society organizations (CSOs).

Inevitably, such an aspiration or ideal accommodates a large variety of explanations, objectives and proposals. These are intertwined with personal and collective observations, values, habits and practices, which are in turn rooted in millennia of developments shaping human experiences, knowledge, technical skills and social arrangements. If one looks back in history (and her-story), the spread of the human species across space was not a collectively planned venture but rather a continuous **co-evolution** of niche creation, occupation and destruction – to use ecological parlance. Roman domination of the Mediterranean, Mongol invasions of the Asian plains and European colonization of the Americas – and present-day ‘conquest’ of outer space – are outbursts of energy following biological rather than societal laws. Most of the time, the human species is simply pushed forward by the *élan vital* or life force and the era of consolidation may give a false impression of control. And yet, the political, military, intellectual and religious leaders in society have always attempted to control their lives and environments, in pursuit of power and order – and still do. Scientific insights and technological achievements became their most trusted tools – and still are. Perhaps, planning is not just an illusion. Perhaps, ideals can become reality if only in direction.

Box 1.1. Etymology: Development The word *development* comes from *des* meaning ‘undo’ and *veloper* meaning ‘to wrap up’ in old French and is possibly of Celtic origin. In present-day use, the verb *to develop* means to (help) strengthen and enlarge. In particular, it is a progression from earlier to later stages of a life cycle or a process from simpler to more complex stages of evolution. It is about growing by degrees into a more advanced or mature state. Development is considered to be broader than quantitative growth. It involves maturing, ripening or bringing from latency to or towards fulfilment and fullness. It refers to a dynamic process of (causing to) grow and differentiate along lines natural to its kind, of improving the quality and of (causing to) become more complex or intricate. Development is an evolution from simple to complex, in a biological sense for organisms, in a psychological sense for a human individual, and in a sociological sense for a society and its **institutions**.

Development is sometimes equated to *growth* of some particular feature. However, growth is usually associated with quantifiable variables, such as use of energy and materials or increase in the volume of monetary transactions. Development is about a more qualitative process towards increasing **complexity**.

1.2 (The Ideal of) Development

Development and **sustainability** are about *quality of life* in the here-and-now and the there-and-later. Perhaps I should add right away: of *human* quality of life, because this reflection is ultimately anthropocentric. But who is man – and what is quality of life?¹ Are development and sustainability largely or entirely ‘in the eye of the beholder’? And if so, who is ‘the beholder’ or, more personally, ‘who am I?’ Stated in more general terms: what are the images of man behind the search for quality of life? In this first chapter, I answer these questions with a brief, personal **cosmology**, inspired by a multitude of philosophers, artists and spiritual teachers whom I had the privilege to be directly or indirectly in contact with.

(The experience of) *quality of life* stretches out over large domains in space and time as sketched in Figure 1.1. Of course, each individual lives in a larger, social-cultural context and the two schemes are flat-world simplifications of a complex reality. In the first instance, I as an individual person relate to it in the here and now, as material and immaterial (lack of) well-being. Do I have enough to eat? Do I have shelter? Can I avoid or cure diseases? Can I learn or apply skills? It has a subjective (personal, inner) and an intersubjective (objective, outer) dimension: I as separate from other living beings. Can I communicate and relate? Can I have sex and experience love? What we experience as quality of life is, through our actions and emotions, our beliefs and thoughts, also something of others and elsewhere, of past and future. Is there food for the whole family? Can I pay my children’s school fees? Will there be riots in town? Will my husband’s job disappear next year? Can I still enjoy last week’s celebration or forget last year’s insult? Will there be a good harvest next year? Clearly, quality of life is not easily condensed in one or a few quantitative measures.

Let us first look at (the ideal of) development succinctly phrased by Sen (1999:3) as ‘*a process of expanding the real freedoms that people enjoy*’. In search of quality of life, one stumbles on the question ‘who are we, humans?’ This is a **perennial** question with perennial answers, from religions in ancient civilizations to ‘modern’ philosophy and **science** and, more explicitly, humanistic and (trans)personal psychology. Let me elaborate.

From a biological perspective, development is about physical survival of the species and its individual members in an evolutionary process. The body with its thinking I has an instinctive tendency and desire to form, develop, maintain and preserve itself (or its self). As an intrinsically social being, this is in constant interaction and ongoing co-evolution with other members of the species and with other beings. As with other life forms, it appears that procreation is overwhelmingly an act of survival which ensures that the species survives, through the individual.² Powerful evolutionary mechanisms have been built in to make survival, and flowering, of life on earth successful.

A second survival drive is manipulation of the environment in order to get food, shelter and protection. Mind is the strategic instrument *par excellence* for survival. It

¹ The word *man* in the English language denotes in first instance a male, in second instance a human being. In most of the older scientific accounts, the first seems to be implied. The second is implied in this book. I will not use (wo)man or (wo)men and use he/his interchangeably with she/her.

² In an extreme form, it is formulated in *The Selfish Gene* by Dawkins (1976).

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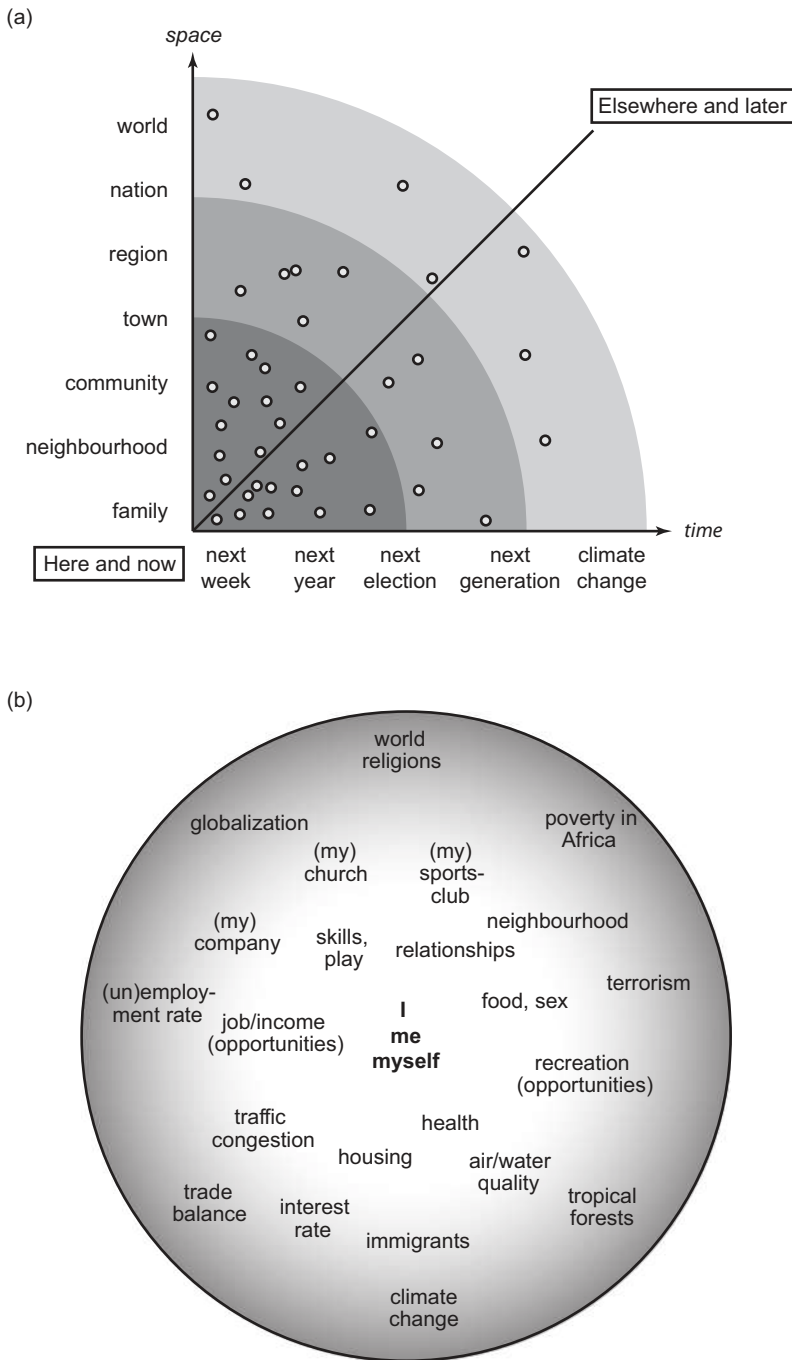


Figure 1.1. Simplified schemes of time and space in the perception of quality of life: (a) the space and timescales in which we experience the world; (b) items in the centre–periphery of our daily consciousness.

teaches the individual and the group to explore and map the environment and to use it for its own purposes, such as collecting and preparing food, building houses and dykes and making weapons to protect itself against others. This knowledge is the basis of the crafts and arts, and later of *science*, *technology* and *culture*. It can be

transmitted, communicated and dispersed in spoken or written symbols, language and artefacts to others and to offspring. From times immemorial, such knowledge has been part of economic, political and sociocultural development.³

A third part of development is *organization*. The power of the individual over other individuals, and other animals, has emerged as an important force. Insofar as (the body of) a person experiences restrictions or opposition, (the will to have) power over and of others, including the gods, is an important survival instrument. It has a material basis ('objects') and a human basis ('subjects'). Development means the maintenance and expansion of one's own peer group, its living conditions and the necessary social hierarchies. Needs, wants and desires become more complex, as they represent the tensions between the actual situation and imagined possibilities.

A fourth perspective comes from humanistic and (trans)personal psychology and of spiritual traditions, where development is primarily focused on *personal or spiritual growth*. Besides the 'outer world' of technology, economy and culture, an 'inner world' is taking shape which is personal and immanent. It is characterized by levels of consciousness, expressed from ancient times onward in the categories of matter–body–mind–soul–spirit or more elaborate ones.⁴ What matters is the personal experience and exploration of the (existence of the) spectrum of consciousness.

In this process, the individual person develops a *personal self* (or *ego*) which moves around the different levels of consciousness and creates at each level an associated **structure** of impulses, emotions, concepts, behaviours and rituals. An **identity** is formed which gives coherence to the psyche. One becomes a story to oneself and others. It assists the individual person to protect herself, digest experiences, choose among alternative options (intention and will) and organize her behaviour. In psychological terms, the individual develops from pre-personal to personal to transpersonal – or from unconscious to conscious to post-conscious and transcendent-spiritual: '*The self is the balancing act of the psyche... [and] the natural tendency of the [human] psyche [is] to grow*' (Wilber 1996:228). In this perspective, each individual human being comes into the world with a unique inherited potential for growth and the essential component of quality of (human) life is the possibility to realize this potential within the given contexts and conditions – the possibility to 'mature', to 'become who you are'.⁵

Yet another, fifth perspective on development comes from *political science and economics*, which in the second half of the twentieth century acquired a specific meaning.⁶ After World War II, the UN had the restoration and maintenance of peace and security as its first goal. Economic growth and expansion of trade were considered the best way to reach it. A secure resource supply was one of the preconditions for growth in rich countries and development in poor countries. As a result, the UN got involved in, for instance, debates about timber shortages and forest restoration in Europe and about putting Middle East oil under UN control.

³ See for instance *Nature, Man and Woman* (1958) by Watts and *Dimensions of Mind* (2016) by Tarhang Tulku for phenomenological and introspective reflections on the working and role of the mind.

⁴ Wilber (2001) speaks of the *Great Chain of Being*, at the kernel of perennial wisdom, and of the connected objects as perceived by the senses, the emotions, the mind and the spirit.

⁵ See for instance Ives et al. (2019) and www.innerdevelopmentgoals.org/ as one of the places where the link between sustainability and spirituality is explored.

⁶ See for a critical history of the notion of development and '*the invention of underdevelopment*': Gustavo Esteva in Sachs (2010).

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Would there be enough resources-for-all?⁷ In the 1950s and 1960s, the underlying development-for-all ideal became a plaything of the Cold War rivalry between the (capitalist) West and the (communist) East and subordinate to the efforts of countries elsewhere to get control over their resources in a post-colonial world. It superseded concerns about resource depletion and environmental destruction.

International deliberations about access to resources focused in the first instance on commodity production regulations in order to reduce the fluctuations in the prices of primary products. A more principled debate unfolded over the ownership and control of natural resources (rubber, metals, fossil fuels, phosphates, etc.). In essence, the rich countries of North America and Europe tried to enforce the rules of the ‘free market’ in the form of principles that forbid restriction on raw material exports, give equal rights to foreigners regarding natural resource development and ask for the prevention of excessive price increases. Development became equated to economic growth on ‘free’ markets by ‘free enterprise’, with considerable funding from corporations (Higgs 2014). The selfish attitude of the former colonial powers and rich countries is only changing slowly, partly in response to increasing negotiating power of many resource-owning countries. At the same time, there are strong undercurrents of initiatives and actions in UN, and other institutional settings, to reorient the world towards fair, sustainable and inclusive development. The SDGs are the clearest expression.

In this book, I associate development with *unfolding complexity and inclusiveness*.⁸ The focus is on potential: ‘*development describes a process through which the potentialities of an object or organism are released, until it reaches its natural, complete, full-fledged form...*’ (Sachs 2010:3). With life, vitality appears: a force to sustain unity, or identity, against a background. An interconnected inner and outer world emerge. The inner recognizes otherness. Complexity appears: an unfolding of the potentialities of matter and simultaneously a materialization of spiritual potentialities (Jantsch 1980).⁹ In human beings, the individual mind, aware of itself and of a past (memory) and a future (imaginings) evolves. Dualism appears: the subject and the object, the knower and the known. The former is experienced as a *self* (or ego) with body, speech (or language) and mind, and with interdependent desires, feelings and thoughts. The latter is the outside world of the other living and nonliving. Although the individual is biologically a separate entity, she is deeply social. The ‘sociality’ shows up in ‘controls’ from the group. Her separateness as ‘individuality’ and identity acquires only later in human evolution significant content and meaning.

⁷ In 1949, scientists discussed the world resource situation and concluded that through more efficient use and new techniques it was possible ‘to support a far greater population than exists today, at a much higher level of living’ (Schrijver 2010).

⁸ See §3.5 and §8.2 for a more in-depth discussion of (the notion of) complexity.

⁹ A similar notion and denoted as a fourth dimension called ‘interiorization’ has been proposed by the French Jesuit Teilhard de Chardin (1957). It is interpreted as an ascending order of intentionality and consciousness unfolding into the *noösphere*. Also the Gaia theory by Lovelock has been interpreted along these lines (Schneider and Boston 1991).

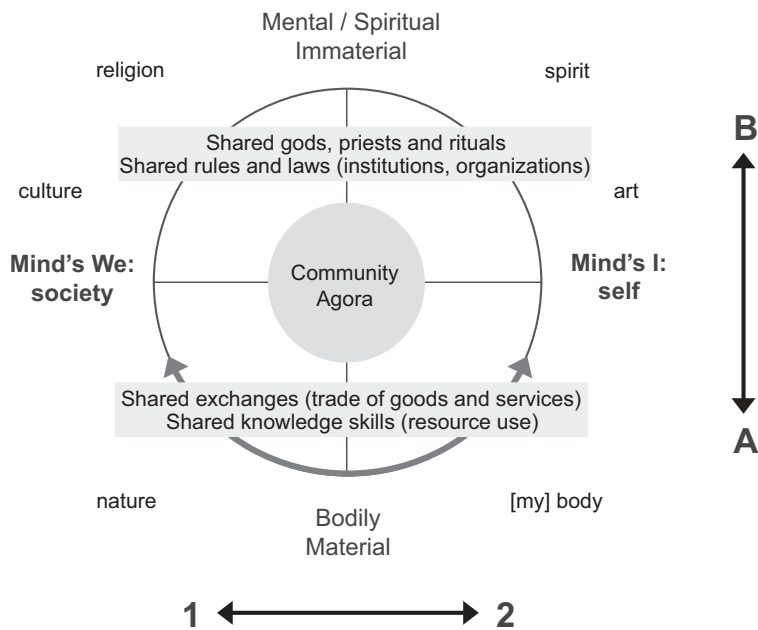


Figure 1.2. Representation of the evolution of human consciousness: development of humans along the dimensions of self and society and of matter and mind.

The mind – and with it language – becomes indispensable for survival. At the same time it alienates humans from the immediacy of experience (Watts 1958).

Growing up, maturing as a human individual, group or society implies a widening of one's perspective on what life and other living beings are and on what 'the good life' can or should be. It is inherently social and coincides with a deepening of experiences, from the sensate and emotional to the mental and spiritual. Against this background, the development of the human race and the human child can be conceived of in two directions along the lower parts of a circle: **emergence** of mind in the upward direction (from A to B) and simultaneous divergence of group and individual towards the left (1) and the right (2) (§6.3; Figure 1.2).

Along the *vertical dimension*, the right-hand side of the circle represents the highly contextual personal knowledge which reflects (the diversity in) ancestry, upbringing, gender, skills and talents. The left-hand side of the circle refers to that which is experienced as shared: the biology and **biogeography**, the skills and knowledge, and the – interdependent – societal **organization** and culture. Movement along the vertical dimension in the scheme represents (the tension between) material and immaterial and between body and mind (spirit, soul). It manifests as a gradual unfolding of human beings into interiority and is at the root of religious awareness and philosophical inquiry. The *horizontal dimension* represents (the tension between) individual and collective (group, tribe, society). At the nadir of the circle, one might locate the origin of (human) life. In the centre is the middle road, the agora and community. It is the locus of balance in the vertical (consciousness) and the horizontal (pathways).

Box 1.2. Etymology: Sustainable The word *sustainable* is rooted in the Latin verb *sub-tenere*, *sub* meaning ‘up from below’ and *tenere* meaning ‘to hold’. In the physical sense, the verb *to sustain* is equivalent to bearing, or carrying the weight of something to keep it from falling by support from below. However, early on, the word had a meaning beyond a simple mechanical act, as is already evident in the words of the Roman philosopher Seneca (3 BCE–65 CE): ‘*The society of man is like a vault of stones, which would fall if the stones did not rest on another; in this way it is sustained.*’

One of the oldest and most common connotations of the verb *to sustain* is to keep a person, a community or the spirit from failing or giving way, to keep it at the proper level or standard. It can be active, as ‘to support (life)’ and being capable and willing to go on. It can also be passive: ‘to undergo’ or ‘to endure’ and is then equivalent to bearable or defensible. Which of the two meanings apply depends on the role, attitude and circumstances of the actor. As she may succeed or fail, the verb *to sustain* reflects the human condition: ranging from willpower, duty and pride to fate, pain and suffering. A closely related connotation stems from the archetypical notion of some force or god, which ‘keeps the world running’. In Greek cosmology, it is Atlas who kept the Earth and the Heaven separated. In this sense, the verb *to sustain* gets a transcendent connotation, as in Milton’s words:

*Whatever was created, needs
 to be sustained and fed.*

In Chinese and Indian cosmology, the forces sustaining the world are in dynamic **equilibrium** between opposites.

An English equivalent of the verb *to sustain* is ‘to last’, meaning to go on existing or to continue. Interestingly, it used to be associated with performance and duty. Another English equivalent is the verb ‘to endure’; it is rooted in the Latin verb *durare* and used in other European languages. In German, the word *dauerhaft* is the common word for sustainable, with *nachhaltig* as a synonym. In French, the word *durable* is most common but the words *soutenable* and *viable* are also used as synonyms to indicate something that is bearable, can survive or is feasible.

Present-day usage of *sustainable* refers to an act, a process or a situation, which is capable of being upheld, continued, maintained or defended. It has a largely active disposition, in the context of sustainable resource use or management. The word *sustainability* expresses the presence of such a capacity and is a recent coinage. The words rooted in *durare* suggest a more passive connotation than those rooted in *sustenerere*.

1.3 (The Ideal of) Sustainability

When did (the ideal of) sustainability appear? The underlying concern has ancient roots, under various names. There have been warnings of overexploitation of local and regional resources and attempts at mitigating the impacts throughout the ages (§3.5, §4.3). Here, I situate the beginning in the 1960s, with the advent of the

environmental movement (§2.2). Its experiential roots were the visible destruction and pollution of industrialism; its academic roots were in the upcoming science of **ecology**.

What these observations and concerns did is to broaden the notion of development in space (other living beings) and time (later generations). This is clearly seen, at least regarding humans, in one of the most widely known definitions of sustainable development in the report *Our Common Future* (WCED 1987):

Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

Within this definition, the goal of sustainable development expresses a quest for developing and/or sustaining qualities of life. Framing it in this way introduces the subjective and objective dimensions of human well-being and invites a truly transdisciplinary approach. It has an intergenerational and an international dimension: people should act here and now in such a way that the conditions for a (decent/high) quality of life elsewhere and later are not eroded. Of course, the notion of needs – of present and future generations – is itself open for divergent interpretations (Box 1.3).

To understand the (rise of the) ideal of sustainability, one can identify several strands – as is reflected in the history of the concept (§2.1; Box 2.1). First, in the last couple of centuries, the species *Homo sapiens* has become exceptionally successful in creating and maintaining niches for its survival and growth. This happened at the expense of many other species, either in terms of their quality of life or their very existence. Sustainability in this perspective means: give other (animal and plant) species room to live on sustainably too. Closely related is a change in the way humans see and experience **nature** and the human–nature relationship (§2.2; §13.5). It is the biological–ecological aspect of sustainability and sustainable development, with an ethical and aesthetic dimension.

Second, it dawns to ever more people that survival of other species is an ingredient of, if not a precondition for, their own survival. Most scientists engaged in global change research (climate, biodiversity, erosion, pollution...) are convinced that the accelerating changes brought upon the **biosphere** by the human species constitute a serious threat for the well-being of future human populations (Steffen et al. 2015). They base their view on scientific observations and interpretations of change processes at all scales. In this context, the quest for sustainability is an invitation to acquire more knowledge about the human–environment interactions and about how it can be made less destructive and more in harmony with nature. This is the natural science and technology (or engineering) and ecological economics perspective on sustainable development, again with an ethical component.

A third strand is the change in appreciation of what I later on introduce as the *worldview of Modernity* (§6.2). The values and beliefs behind industrialism, both capitalist and socialist–communist, and behind science and technology are – not for the first time – questioned by those who saw their quality of life threatened or destroyed. Its orientation on efficiency and profit, on achievement and **utility** have brought all kinds of progress and benefits. It promised the conquest of reason over instinct and emotion, progress over misery, emancipation over suppression. Gone were the days of tribalism and religious wars. Alas, two worldwide wars more devastating than any before and persistent and creeping destruction of the natural