Chapter 19
Suggestions for Future Sustainability: Philosophical and Practical

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19.1 Sustainability

Sustainability is a complex issue, as shown by the diversity of topics covered by the other chapters in this volume. This is shown pictorially in Figure 19.1, which summarises this author's understanding of the main issues that seem central to the message of each chapter.

In Figure 19.1, the house with a person inside represents a building of any type with its inhabitants. The built environment is composed of many such buildings, along with their people and with natural things, depicted by trees. 'CC' represents climate change, with an arrow, its emissions. The person on top of the house represents the client in a construction project, and the person with a hammer represents construction. The thick-lined individual depicts those who think about, research or plan these other activities, with the think-cloud representing that thinking, researching, planning and their themes, worldviews or specific topics. An arrow between people represents discourse or participation. Arms outstretched in front of people denotes an interest in values. A rectangular box represents a tool, usually ICT. The long arrow from left to right represents time.

In brief, this author's understanding of what is important in each chapter is as follows. Brandon (Chapter 1) refers to all the chapters to discuss broad themes relating to sustainability, including worldviews, ICT, practice and time, ending with a set of values. Biscaya and Aouad (Chapter 7) present a utopian vision of smart technologies that, they believe, will help address future challenges. Cooper (Chapter 5) charts the history of sustainable urban development over the last 15 years, with particular reference to the BEQUEST network, and makes suggestions for how it should develop in future. Curwell (Chapter 15) aims at integration in our thinking and views. De Iuliis (Chapter 18) discusses the time element in sustainability in depth. Du Plessis (Chapter 3) argues broadly that we need a new worldview and especially a transformation of the self. Fernando and Alzahmi (Chapter 9) argue that we need tools for collaborating on disaster risk. Formoso and Miron (Chapter 14) discuss how values may be managed in
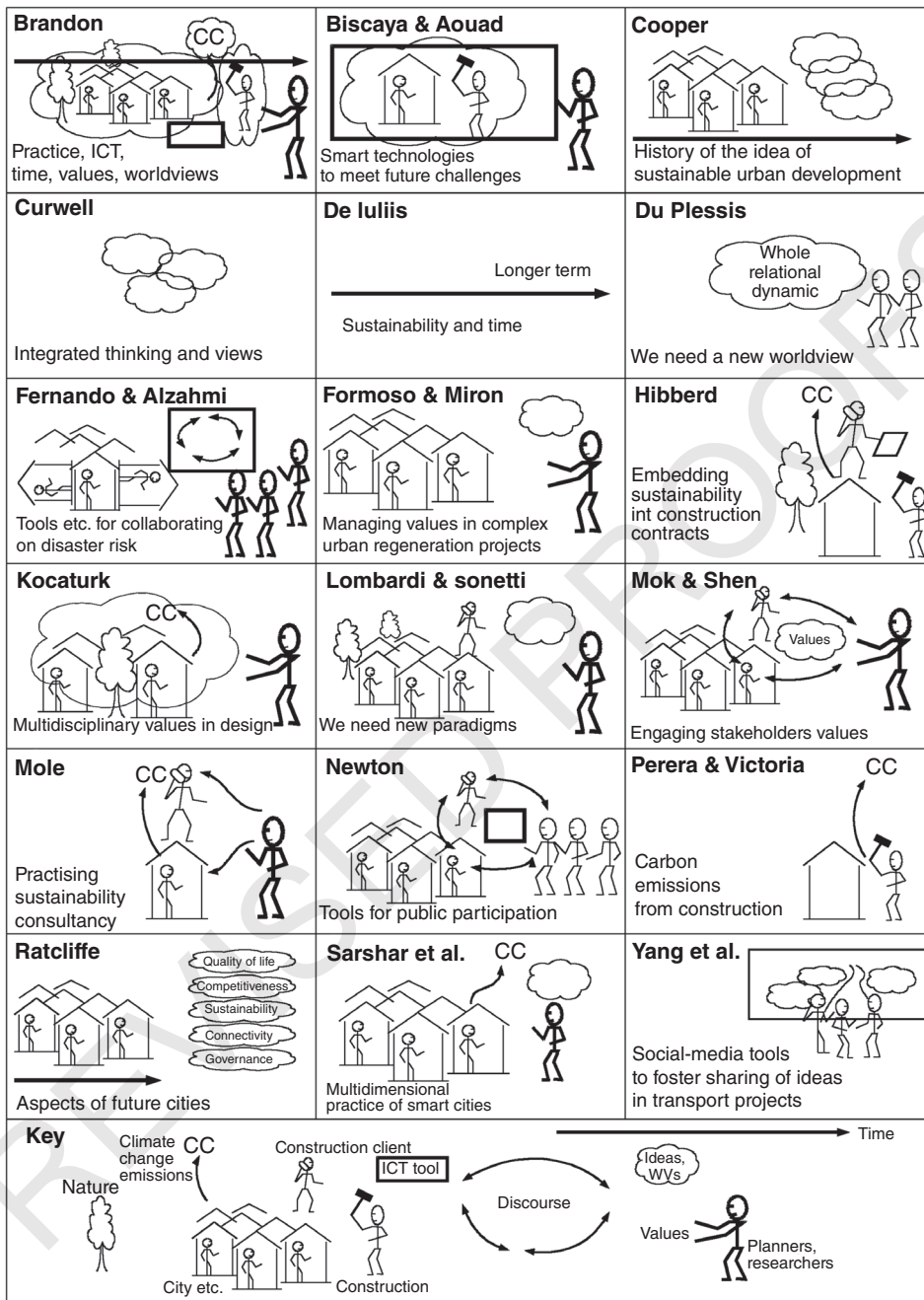
Figure 19.1   A depiction of built environment sustainability issues discussed in the other chapters.

complex urban regeneration projects. Hibberd (Chapter 16) discusses how sustainability might be embedded into construction contracts, rather than being seen as an optional extra. Kocaturk (Chapter 10) discusses challenges in designing for sustainability and especially the multidisciplinary values that impinge on it. Lombardi and Sonetti (Chapter 4) emphasise the insufficiency of simple models and the need for new paradigms for resilience. Mok and Shen (Chapter 12) discuss stakeholders engaging about values. Mole (Chapter 13) reflects on the experience of one consultancy business in sustainability. Newton (Chapter 6) discusses a virtual reality tool to facilitate for wider participation in development. Perera and Victoria (Chapter 8) discuss how carbon emissions might be managed in the construction industry, both embodied and operational carbon. Ratcliffe (Chapter 2) argues that thinking about and planning cities of the future require a multi-aspectual approach. Sarshar *et al*. (Chapter 11) discuss one case of moving towards a 'smart city' using technology and community involvement to reduce carbon footprint. Yang *et al*. (Chapter 17) discuss the sharing of ideas in transport projects and how social media technology might foster this.

There is considerable diversity, not only among issues, but also among types of issues: buildings, the built environment, cities, nature, carbon footprint, construction processes, building ownership, project management, discussions, plans and planning, participation, analyses, research, theories, worldviews, beliefs, history and time. All are important for sustainability or resilience. Among all these issues and types of issue there are connections, which also provide links among the chapters, sometimes explicit but often less so. This is the complexity that is sustainability.

19.1.1 The challenge

How can all this be holistically understood, to guide and inform our practice? How can we bring together such a disparate set of issues? One answer is to reduce and ignore certain issues as 'unimportant' but in sustainability, with its integrated interdisciplinarity (Boden, 1999), that is not an option because justice must be done to all the issues without ignoring or reducing the importance of any. To view all the issues through one lens, such as that of economics or a functionalist approach, is also inappropriate, since such reductionist methods cause many important issues to be overlooked. Such approaches tend to downplay normativity and the structural element, so a socio-critical approach might be justified. However, such approaches tend to focus on the theme of emancipation, which privileges the human over the non-human.

To do justice to sustainability, both in theory and practice, requires a future-proof understanding of sustainability that incorporates normativity and social structures but is sensitive to all issues, including non-human ones.

19.1.2 The need for philosophical thinking

Such diversity as sustainability urges on us requires philosophical thought. Whereas the sciences each concern themselves with single aspects of reality, philosophy concerns itself with how these aspects relate to each other. To Hart (1984), philosophy is the integrative

discipline, and Strauss (2009) calls it 'the discipline of disciplines'. All science and research rest on philosophical assumptions: we cannot begin to form scientific theories until we have selected a way in which reality is meaningful to us – physical, biotic, social, economic and so on.

Philosophy however does not need to be abstract or abstruse. In *Systemic Intervention*, Midgley (2000) offers reasons why philosophy is necessary when – and especially when – considering practice:

- Philosophical assumptions can be used to justify (and critique) practice.
- Philosophy can be used to help define alternatives, and explain why they should be considered.
- Philosophy can assist debates about methodology, and help us discuss and select guidelines for practice.
- Philosophy can help critique and justify intuitive notions and ethical stances in scientific methodology.
- Philosophy helps us see practice in a different light – as Peter Brandon discovered with the philosophy introduced below!
- Philosophy reveals why different approaches are incompatible and cannot simply be 'compared' (an example Midgley gives is of utilitarian and rights-based approaches to managing the National Parks in the USA).

Each of these is important in the research and practice in sustainability. Not only can philosophy help with each, but how we approach each will be deeply influenced and constrained by a philosophical stance, often without our being aware of it. Philosophical interest in the importance of sustainability is scarce, except as a special topic. One reason for this is that most philosophies have hindered thinkers from taking the relationship between human and non-human as seriously as we need to.

19.1.3 Problems with much philosophy

The hindrance comes from philosophy's role in forming the way we presuppose the world to be. To risk oversimplification: Greek philosophies tended to denigrate the material realm, except perhaps as something to form categories about, mediaeval Scholastic philosophies denigrated nature and the secular, except as an aid to the sacred, and most philosophy since the Renaissance has centred on the human, especially human freedom, with Kant introducing the 'Copernican Revolution' that makes human consciousness dominant (c.f. Chapter 3). A few philosophies, such as naturalism, go to the opposite extreme, coercing us to reduce the human to mere natural processes. In all these, the relationship between the human and non-human, which is so important in sustainability, has always been skewed one way or the other by prior presuppositions. Though some contemporary thinking might seem to recognise the relationship more, most do so by explaining it solely via one of its aspects, such as separation (Heidegger), power (Foucault) or communicative action (Habermas). Most philosophy, recent or ancient, tends to direct our thinking along certain channels, which usually means we fail to do justice to other issues.

The challenge is: how can we do justice to the diversity of issues that are meaningful to sustainability, both human and non-human together, without either unwarrantedly ignoring any, or else descending into confusion?

One philosophy that might help us is that of Herman Dooyeweerd (1894–1977), a Dutch thinker of the mid-twentieth century.

19.2 Dooyeweerd's philosophy

This section briefly lays out several themes of Dooyeweerd's philosophy (Dooyeweerd, 1955, 1979), tailored to sustainability of the built environment and making reference to the various chapters of this book. A fuller account of Dooyeweerd's ideas may be found in Basden (2008).

Dooyeweerd sought to understand rather than reduce diversity as it 'speaks to us' within our everyday experience, and especially to understand the coherence that characterizes everyday experience. Though his main work preceded current concern for sustainability, it provides a promising approach, by which human and non-human may be considered with equal dignity, and the coherence between human and non-human understood in all its diverse aspects, such as the physical (climate change), biological, economic or social.

Dooyeweerd's philosophy is founded on very different presuppositions than are those mentioned above and, though initially largely confined to the Netherlands, his ideas are attracting increasing interest throughout the world and in many fields of interest. These include information systems and sustainability (Lombardi and Basden, 1996), with Brandon and Lombardi (2005) initiates a systematic debate about how Dooyeweerd's ideas might be useful for the latter in the urban context.

To Dooyeweerd, philosophy itself must be understood in the context of everyday experience (of which 'practice' is part). So, though philosophy might help us reflect on practice, as Midgley (2000) says, it can never sit as judge over practice, and indeed must itself always be judged by everyday practice. That is the attitude we will take here.

19.2.1 Human and non-human

The first and perhaps most fundamental point is that thinking about sustainability requires a conceptual framework that applies equally to both the human and the non-human, the natural and cultural, with equal aplomb. All three of the Greek, Scholastic and Humanist strands of philosophy tend to place humanity at one pole of a dualism and non-human reality at the other.

By contrast, Dooyeweerd saw all Reality as Being and Occurring by virtue of what he called a '*law side*' of reality, which pertains for both human and non-human equally, though in different manners. This is converse to the *fact side* or *subject side*, which is all that actually exists and occurs, both human and non-human together. Both human and non-human are subject to the same laws, and hence cannot be pushed to opposite poles.

19.2.2 Diversity and aspects

The law side is diverse, constituted of a number of distinct '*law spheres*' or *aspects*. Each law sphere provides fundamental laws of various kinds that govern the activity of all reality, such as mathematical, physical, biotic, psychological, technical, social, economic and ethical laws. In the 'early' or 'pre-human' spheres (aspects), like the physical, the laws are largely determinative but, in later ones, like the social, they allow freedom and are seen as normative in that they distinguish what is good for reality from what is harmful.

Insofar as sustainability may be seen as concerned with the whole of reality, both human and non-human, Dooyeweerd's notion of law spheres might help us understand its diversity, and in a way that incorporates some innate normativity. For example, what climate change emissions results from construction, as discussed by Perera and Victoria (Chapter 8), involves both (non-human) physico-chemical activity and (human, social) decisions of what is constructed and the taking of responsibility for these; Dooyeweerd enables us to consider the laws (determinative or normative) for all these within the same conceptual system, by means of his delineation of fifteen distinct law spheres or aspects.

The word 'aspect' is usually preferable to 'law sphere' since much of our discussion is about ways in which reality may be viewed as meaningful. Just as in architecture, an aspect in Dooyeweerd's sense is a way of viewing things, but Dooyeweerd extends this from buildings to all reality. Each aspect is an irreducibly distinct way of viewing, experiencing and understanding reality, as well as being a law sphere, each being as important as all the others.

The 15 aspects or law spheres Dooyeweerd delineated are shown in Table 19.1. 'Kernel meaning' indicates the way in which the aspect enables situations, things and functions to be meaningful in everyday experience and also in research, 'Potential good' indicates the benefit that the aspect can bring to reality and contribute to sustainability if reality functions in line with its laws. Examples of how each might be relevant to sustainability are given in column 4, some drawn from Brandon and Lombardi (2005).

Dooyeweerd believed that the kernel meanings of the aspects are the same across all cultures (the table entries only partially express them). Moreover, they are grasped by intuition better than by theoretical thought. This opens up a greater possibility of cross-cultural understanding, which is a concern of Yang *et al.* (Chapter 17).

Though irreducible to each other, each aspect depends on others. For example, language and social activity can never be reduced to each other, yet social activity cannot function without language, and language would be almost meaningless if not serving social activity. So it is in sustainability: how we function in one aspect eventually has impact on others.

The physical functioning of the environment is affected by functioning in other aspects, for example when tree roots crack rocks, or when businesses extract physical materials to employ as resources. Which physical materials we extract are determined by our economic choices, which are in turn influenced by our aesthetic choices (as in leisure shopping), which in turn are influenced by our aspirations (pistic aspect), which are mediated through the media (lingual functioning). The care with which we extract materials is determined by ethical attitudes. With that example, we see that even an

Table 19.1 Dooyeweerd's aspects.

Aspect	Kernel meaning	Potential good (examples)	Sustainability (examples)
Quantitative	Amount	Reliable quantity	Measurement
Spatial	Continuous extension, space	Simultaneity, continuity	Geography
Kinematic	Movement: 'flowing and going'	Dynamics	Movement of CO_2; Transport
Physical	Forces, energy, matter	Irreversible persistence and causality	Climate change
Biotic	Life	Organisms sustained in environment	Ecological health
Sensitive	Feeling, response, emotion	Interactive engagement with world	
Analytical	Conceptualising, clarifying, categorising and cogitating	Independence from the world; Theoretical thinking	Clear thinking, analysis
Formative	Formative power (deliberate shaping)	Achievement, construction, innovation; technique, history, culture, technology	Construction; working to reduce CO_2 emissions
Lingual	Symbolic signification	Articulation of intended meaning	Information dissemination; good conversation
Social	Social interaction	Togetherness, institutions	Friendliness
Economic	Frugal management of scarce resources	Sustainable prosperity	Conservation
Aesthetic	Harmony, surprise, fun	Munificent delight	Enjoyment for all
Juridical	Due; appropriateness; rights, responsibilities	Justice for all	Laws, government
Ethical	Self-giving love	Extra goodness, beyond the imperative of due	Generous attitude
Pistic	Vision, aspiration, commitment, creed, religion	Courage, hope; openness to the Divine; change in direction of society	Hope, vision

apparently simple physical activity involves many aspects; Dooyeweerd's aspects offers us the ability to separate out these tangled issues so as to consider them.

Though aspects up to the lingual are concerned with the functioning of individual entities, those from the social onwards are concerned with social activity, and the juridical, ethical and pistic aspects are concerned with societal structures and activity. Juridical societal structures are those of the state and politics; ethical societal structures are attitudes that pervade society; pistic societal structures are the prevailing beliefs and unwritten assumptions and presuppositions that deeply influence our functioning in all other aspects. There is, however, also an individual form of functioning in each of the post-social aspects; for example, economic functioning of carefully managing resources can

be undertaken by each individual and by organisations as part of a market. In the pistic aspect we see this dual functioning as that of Western society, including a belief in and commitment to the supremacy of the individual human being, while that of any one individual being their individual beliefs and, perhaps, the courage to hold contrary beliefs. This provides a basis on which the individual and the social may be understood together as all part of one systemic picture. We will return to this below.

Note that Dooyeweerd was self-critical about his suite of aspects: it 'can never lay claim to material completion' (Dooyeweerd, 1955) but should expect to be constantly revised. Yet, as Basden (2008) argues on both practical and philosophical grounds, it is probably the best suite of aspects currently available to us.

19.2.3 Towards an understanding of sustainability

Every thing or situation potentially exhibits every aspect and is subject to the laws of each aspect. This includes sustainability, especially of the urban environment (Brandon and Lombardi, 2005). For example the built environment is meaningful spatially, biotically, socially, economically, lingually, physically and so on. It is subject to spatial laws in relation to neighbouring areas that exist simultaneously with it, biotic laws in its ecology, social laws of being together (e.g. politeness), economic laws in how resources are managed, lingual laws that enable and guide discourse, and especially physical laws by which climate change emissions are generated.

Functioning in each aspect can bring beneficial (good) repercussions and, from the biotic onwards, the possibility of detrimental (evil) repercussions. As Table 19.1 shows, each aspect provides the potential for a different kind of good to be manifested in reality. For example, the physical aspect makes causality and persistence possible, without which biotic functioning would not be possible. The biotic aspect makes the organism possible, the psychic gives interaction, the analytic aspect gives conceptualization and analysis and so on up to the pistic aspect, which makes commitment and courage possible.

Inspired by Brandon and Lombardi's (2005) ideas, Vandevyvere (2011) has expended and developed them to provide a philosophical–cultural framework for assessing sustainability.

19.2.4 Sustainability as harmony

The difference, in Dooyeweerd's understanding, is that human beings can function differently in certain spheres of this meaningfulness and law, to which we now turn.

Generally, functioning well in an aspect, in line with its laws, has positive (good) repercussions, which are summarised in Table 19.1, while going against its laws has negative (evil) repercussions: in the social aspect, treat someone as a friend and they will cooperate; treat them as an enemy and they will not. Repercussion chains might occur; for example, if contractors function justly (juridical aspect), the client receives their due; if the client functions justly, the inhabitants receive their due; if inhabitants function

justly, the built environment/community receives its due; if that functions justly, nature and planet receive their due and are not harmed. Sustainability thus involves all levels and, in his chapter, Hibberd discusses the first of these but possibly also the wider implications for the rest.

However, is not sustainability more than juridical? Does it not involve all aspects, including the biotic, the social, the economic, the ethical and so on? Dooyeweerd did not use the term 'sustainability' but he held that, for full 'prosperity', 'wellbeing' and so on, we should function positively in all aspects in a way where all aspects work in harmony with each other, as do players in an orchestra. Basden (2008) employs the Hebrew word *shalom* (or the Arabic word *salaam*) to denote this multi-aspectual harmony in life and existence.

The main suggestion in this part of the chapter is that sustainability may be seen as multi-aspectual harmony. Hence sustainability in the built environment requires, and results from, functioning well in every aspect. For example, both capitalist and Marxist approaches over-emphasise the economic aspect to the detriment of others, and this jeopardises sustainability. Some aspects operate over short timescales, some over longer ones. The latter include the juridical aspect (of legal and political structures), the ethical aspect (of prevailing attitudes that gradually spread) and the pistic aspect of deeply assumed beliefs, aspirations and commitments. This offers a useful way of understanding not only the general concept of sustainability but also specific functions that result in good or ill at all timescales.

Resilience, as discussed by Lombardi and Sonetti (Chapter 4) requires this multi-aspectual harmony. Two things jeopardise sustainability: (i) going against the laws of any aspect and (ii) giving too much emphasis to one aspect and ignoring others.

19.2.5 Values

This provides a way of understanding values; each value that we find meaningful is likely to be centred on an aspect, or perhaps a combination of a couple of them. For example, economic value is what helps us manage resources better, biotic value is what helps life, social value is what improves relationships. No kind of value can be reduced to any other.

In this volume, Mok and Shen (Chapter 12) are interested in stakeholders engaging about values. Formoso and Miron (Chapter 14) are particularly interested in managing value in urban regeneration projects and for this they need to understand 'value generation' and to be sensitive to values held by those who live there as well as city planners and owners. Each group of stakeholders is likely to find different aspects of importance as values: for example economic values to city planners and owners, but social and biotic values to inhabitants, with pistic values important to both sets but in different ways, such as religious beliefs to inhabitants and reputation of the city to planners. The Dooyeweerdian harmony of the law spheres, which Basden (2008) calls *shalom/salaam*, might offer a means of value sharing, not by lowest common denominator, but to enable all parties to see why values held by parties might be important in the wider picture.

19.2.6 Thinking about sustainability

Sustainability is thought about during analysis, planning and research. Dooyeweerd's suite of aspects can be employed during analysis to separate out meaningful issues in a way that transcends the interests or biases of analysts (Ahmad and Basden, 2013). For example, we may separate the economic from the biotic issues in sustainability, the lingual from the social and the analytical from the formative; and yet the inter-dependency among aspects means we must consider them all together. This is particularly useful for interdisciplinary research, which is vital for sustainability (Brandon and Lombardi, 2005; Strijbos and Basden, 2006).

The activity of thinking, analysing, researching and theorising, which several authors in this volume discuss, has the analytical aspect at its core, and this targets other meaningful aspects of the world. Cooper learns lessons from research that has taken place. Fernando and Alzahmi (Chapter 9) recognise that several aspects are meaningful targets during risk analysis, especially the social, economic, biotic and physical. Yang *et al.* (Chapter 17) wish to promote sharing, including harmony across cross-cultural situations, which might be facilitated if analysts attend to the kernel meanings of aspects, since these pertain across cultures.

Research involves a special kind of thinking, which aims at greater generality and reliability of knowledge: theoretical thought. Contrary to traditional assumptions, Dooyeweerd maintained that theoretical thought is never neutral but is driven by pre-theoretical beliefs about what is meaningful – prefiguring more recent thinkers like Habermas and Foucault. He carefully argued this both historically by an extensive, immanent survey and also philosophically by transcendental critique; this critique occupies most of Volume I of his *magnum opus* (Dooyeweerd, 1955). He identified three pre-theoretical roots underlying theoretical thought:

- What is deemed meaningful to study is a pre-theoretical choice and commitment (for example in this book, Biscaya and Ghassan's focus in Chapter 7 is on a technological tool).
- How we integrate distinct rationalities (e.g. economic and social rationalities) is a human responsibility, not a mechanical–logical operation; this is the concern of this chapter's first proposal.
- On what basis the community of discourse believes it is valid to critique proffered ideas depends on deep presuppositions about how reality is meaningful (e.g. this often involves the presumed tension between nature and humanity); this is the concern of this chapter's second proposal.

Dooyeweerd believed that these three are necessary for any research or philosophy but are too often hidden in presuppositions. He suggested that self-critical explication of these pre-theoretical factors can facilitate mutual understanding and discourse between disparate paradigmatic views. This might help in two ways.

First, because they are ways in which reality is meaningful, Dooyeweerd's aspects can enrich individual research projects. Two examples: (a) By referring the Seven H's in Brandon's contribution (Chapter 1) to different aspects, they can be philosophically

grounded and the links between them be readily explored. (b) More elaborately, Dooyeweerd's aspects might assist Fernando and Alzahmi (Chapter 9) in disaster risk assessment by: (i) helping to focus on distinct types of risk (physical, biotic, psychological, social, economic, etc.) during risk analysis and evaluation, (ii) offering a 'comprehensive theoretical framework' they call for and (iii) providing a basis for sharing understanding in multi-agent situations, where each agency has its own aspect of primary interest but can acknowledge the aspects of other agencies. The reader is invited to consider how each of the other chapters, or papers outside this volume, might be similarly enriched.

Second, Dooyeweerd's aspects can situate the contributions in a work of this nature, painting the kind of holistic–harmonious picture that Brandon (Chapter 1) calls for. Table 19.2 summarises, for each of the chapters of this book, which aspect of sustainability each finds it meaningful to study or discuss. The first column contains the author together with this author's understanding of what is meaningful in their chapter. To aid clarity, four different activities are distinguished, in columns 2–5 of the table:

- Aspects of living in a built (and any other) environment;
- Aspects of the process of construction or procurement of that environment;
- Aspects of discoursing about sustainability;
- Aspects of thinking about any of that (research, planning, theories, worldviews).

This provides an opportunity to integrate the ideas in all the disparate chapters of this work, into a single picture that we might call 'sustainability'.

This analysis reveals several things in an indicative way. One is that all four activities are represented here, though some more than others. Another is that, within each activity, there is little duplication of aspects, suggesting that this work contains a reasonably broad range and good balance. Even the technical tools are for different things. Yet another is to see which aspects are missing, such as the social or economic aspects of construction. This can guide us towards how an even more complete picture of sustainability might emerge from this work, by deliberately considering the missing aspects in each activity.

19.2.7 Human functioning in sustainability

All four activities listed above should function well in every aspect: living in a built environment, constructing or procuring the built environment, discoursing and participating in the built environment and thinking about the built environment (analysing, researching, planning, holding worldviews). Each activity is considered in turn as multi-aspectual human functioning.

Thinking about sustainability (column 5) has been discussed above.

In *living in a built environment* no aspect is necessarily more important than any other. Nevertheless, each aspect may be studied separately, as several chapters in this work do. Mole (Chapter 13) is particularly interested in energy, which is primarily the physical aspect of living in a built environment, but also involves the psychic aspect of people

Table 19.2   Aspects on which the chapters focus. Chapter numbers are given in parentheses in column 1.

Chapter authors and main interests (chapter number)	Aspects of living	Aspects of construction, procurement	Aspects of dialogue or discourse	Aspects of analysis, planning, research, views
Brandon: Broad themes and history (1)				Aesthetic (harmonisation)
Biscaya and Aouad: Smart technologies to meet future challenges (7)		Pistic (Utopian vision); formative (tool)		
Cooper: History of research into built environment (5)				Formative (history)
Curwell: Integrated thinking and views (15)				Aesthetic
De Iuliis: Sustainability and time (18)	(Time: beyond aspects)			
Fernando and Alzahmi: Tools and so on for collaborating on disaster risk (9)				Formative (how-to)
Formoso and Miron: Managing values in urban regeneration projects (14)		Ethical		
Hibberd: Embedding sustainability in construction contracts (16)		Juridical		
Kocaturk: Multidisciplinary values in design (10)		Formative (design)		Pistic
Lombardi and Sonetti: Multiple states of resilience (4)	Aesthetic (diversity, coherence)			
Mole: Giving energy advice in practice (13)		Formative (design)	Lingual (advice), physical (energy)	

Table 19.2   (Continued)

Chapter authors and main interests (chapter number)	Aspects of living	Aspects of construction, procurement	Aspects of dialogue or discourse	Aspects of analysis, planning, research, views
Newton: Tools for public participation (6)			Lingual (discourse), social (participation), formative (tools)	
Perera and Victoria: Carbon emissions from the construction industry (8)		Physical (CO_2); formative (controlling)		
Du Plessis: We need a new worldview (3)				Pistic
Ratcliffe: Future-orientation in planning (2)	Multiple			Juridical (due to future)
Sarshar *et al*.: Smart cities (11)	Physical (CO_2)			Formative (technology), social (participation)
Mok and Shen: Stakeholders engaging about values (12)			Ethical	Social
Yang *et al*.: Social media tool to foster sharing of ideas in transport projects (17)		Social (sharing), formative (tool), aesthetic (harmony)		

feeling warm, the economic aspect of saving energy and the social aspect of neighbours. Population is an important factor in sustainability worldwide, as discussed by Perera and Victoria (Chapter 8); this is a quantitative aspect with economic overtones. Sarshar *et al*. (Chapter 11) are concerned about carbon footprint of cities (physical aspect) with juridical responsibility. Lombardi and Sonetti (Chapter 4) argue that simple models, which recognise only a few aspects, are not sufficient, while Ratcliffe (Chapter 2), in his five 'crucibles', actually separates out many of those mentioned here (social, spatial, formative, aesthetic, juridical, lingual, economic, ethical and pistic aspects of living in cities) and argues that we should do justice to all of them, which is a juridical aspect of the planning process.

Other human activities that we have identified here do often have one aspect that is of primary importance in making each meaningful; Dooyeweerd called this the *qualifying aspect*: the formative for construction, the lingual for discussion and the analytic for thinking about sustainability, though all the other aspects are important for its full potential.

Constructing the built environment is qualified by the formative aspect. Thus, Kocaturk (Chapter 10), interested in part of the activity of construction itself (design for sustainability), focuses on this qualifying formative aspect. However, since for construction to be fully sustainable all other aspects are also important, Kocaturk also discusses the analytical aspect of comparing actual performance of buildings with that predicted. Other authors discuss yet other aspects. Perera and Victoria (Chapter 8) are interested in carbon emissions from construction worldwide (which is the physical aspect) and managing it (formative aspect). Hibberd (Chapter 16) is possibly the only author in this volume who focuses on a juridical aspect, contracts that encourage sustainability. Those three also involve the social aspect of people working together and, of course, the economic aspect of management of resources.

This gives a picture in which all these aspects – analytical, formative, juridical, aesthetic, social and physical – are important when considering construction for sustainability. There are yet others, such as biotic, the ethical (especially when constructing in downtrodden communities or developing countries) and the pistic (the overall meaningfulness of construction). Insofar as each aspect indicates the core interest of a discipline (Basden, 2010), Dooyeweerd thus provides a basis for bringing many disciplines and their professions in construction together when considering sustainability.

Discussions about sustainability in the built environment, including by planners, is qualified by the lingual aspect, but again all aspects are important as content of the discussions. Mok and Shen (Chapter 12) emphasises both the ethical aspect in his discussion of stakeholders engaging about values and the social aspect of engagement. Kocaturk (Chapter 10) is particularly interested in the diversity of values (beliefs about what is important: pistic aspect) that impact on design. Mole (Chapter 13) discusses giving advice especially about design (formative aspect). Newton's (Chapter 6) discussion of tools for participation covers not only the lingual aspect, but also the formative aspect of tools and the social aspect of participation. The idea of smart cities, discussed by Sarshar, Ianakiev and Stacey (Chapter 11), tries to unite technology with community participation (formative, social aspects) to reduce the carbon footprint of the life of a city (physical aspect).

In Chapter 1, Brandon tries to incorporate all these human activities in his broad themes and history. He is aware of all Dooyeweerd's aspects and, in fact, came to see aspects as 'a way of thinking'. There may have been a mutually reinforcing cycle here, between valuing interdisciplinarity and seeing things with a suite of aspects that are intuitively grasped in both theory and practice.

This demonstrates the integrative capability of Dooyeweerd's aspects. With them we can conceptually separate out the issues that are meaningful and place them all within a wider picture. This in turn makes it possible to identify common interests and links. It also demonstrates the stimulatory capability in revealing issues that might otherwise be overlooked.

19.2.8 Worldviews

In this volume, both Lombardi and Sonetti (Chapter 4) and du Plessis (Chapter 3) argue that we need a new worldview or paradigm. Du Plessis is particularly exercised by the divides left by the Enlightenment: between individual and community, body and soul, interior and exterior. From where can we get changed worldviews? In some sustainability and environmental circles, there is an ideological dogma that we should decentre the human, reacting dialectically against the destructive, ugly dominance of humanity especially since the Enlightenment. It sees anthropocentrism as an evil to be overcome and those who question it as heretics. As a result, many in the wealthy world, especially the United States and Australia, have reacted against this, to see environmentalism itself as an evil that prevents the poor from achieving their material aspirations.

Most of the chapters in this work seem to range somewhere around the middle between the two extremes. Dooyeweerd's analysis of ground-motives (Dooyeweerd, 1979) accounts for how such divides arose and gained a hold on contemporary thinking. They are not themselves fundamental, Dooyeweerd argued, and hence may be overcome if we take a ground-motive in which diversity of meaningfulness is important.

Ratcliffe (Chapter 2) calls more specifically for future-orientation through 'enlightened city leadership' and 'strategic urban foresight'. Curwell (Chapter 15) calls for more integrated views covering multiple factors. Kocaturk (Chapter 10) calls for recognition of multidisciplinary values (= multi-aspectual) in design.

These are more nuanced, integrated and future-oriented than dialectical reactions are, and Dooyeweerd offers a basis for them. Each worldview, he suggested, elevates one aspect, usually to a dominant position in which other aspects become ignored. So a more integrated worldview may be seen as recognising the equal importance of all aspects (which is why Dooyeweerd spoke of the aspects as earlier–later, rather than lower–higher). Dooyeweerd's philosophy might offer a framework for disclosing which aspects are being undervalued or elevated in discourses around, or action towards, sustainability and for rectifying such imbalances.

19.3 The longer view

19.3.1 Time and progress

As several of the chapters argue, sustainability cannot be divorced from time. But what is time? Dooyeweerd believed that time itself exhibits all the aspects and that all aspects of time need to be recognised. 'Clock' time is physical time and cannot be prioritised over psychological time (our feeling of time), nor historical time, governed by the formative aspect as the moving-forward to human-shaped events, nor biological time, which is cycles of birth, growth, maturity and death.

All aspects of time are important in sustainability and, in her PhD thesis, De Iuliis (2010) made an extensive exploration of Dooyeweerd's ideas of time in relation to

sustainability. Her chapter here (Chapter 18) builds on this, to especially consider the longer term.

Long-term issues like sustainability refer to the pistic aspect. While most other aspects are concerned with processes and how repercussions arise from our functioning, the pistic aspect is also concerned with beginnings and ends, all with the meaningfulness of all the processes taken together. Though many processes contribute to sustainability, sustainability as such is long term. Moreover, if someone challenges us with 'Why bother with sustainability?', this is a pistic question to do with ultimate meaningfulness over the entire existence of sustainability from beginning to end. Reference to other aspects, such as the economic or biotic, do not suffice.

How does sustainability relate to 'progress', especially of technology or economy? Progress, to Dooyeweerd, is more than technical or economic; it is the opening up of the potential of aspects and is closely related to science and the disciplines. For example, the potential of the formative aspect was opened up by tools, techniques and technologies, while the potential of the lingual aspect was opened up by writing, film and now ICT.

The opening up of an aspect is achieved by generating knowledge of aspectual law, both theoretical and experiential, and involves both delving into the depths of the aspect and being stimulated by application to other aspects, during which the echoes of those aspects are revealed. The discussion of processes for assessing disaster risks in Chapter 9 by Fernando and Alzahmi is a good example of opening up the formative aspect of achieving something, which then opens up the social aspect of collaboration. Research contributes to this opening process in all aspects but it is itself an opening up of the analytic aspect, and so it is important that Cooper (Chapter 5) traces the history of the idea of sustainable development and makes suggestions for its future.

ICT may be seen as opening up the potential of the lingual aspect (e.g. with the World Wide Web and social media). This is why it is important to consider information-based tools in relation to sustainability, as Biscaya and Ghassan (Chapter 7), Newton (Chapter 6) and Yang *et al.* (Chapter 17) do in their discussions on simulation tools, techniques for analysing big data, tools to encourage participation and social media as a tool for sharing ideas and perspectives.

Drawing on Dooyeweerd, Schuurman (1980) argues that this opening process is guided by the norms of aspects and that the opening of any one aspect should never be guided by its own norms but should serve the norms of all other aspects. The goal of national economies, for example, should never be merely to achieve growth in GDP but should be to facilitate development of other aspects of society. Similarly, though technology can be developed initially under its own dynamic, it must someday serve other aspects or else it becomes sterile. Such sterile thinking might also be indicated by Utopian views of technology, which can be found in Chapter 7. Only when the opening of each aspect facilitates others, is sustainability assured, especially over the long term. This implies responsibility. This is, perhaps, a theme that could be developed further in relation to sustainability to ensure that no one aspect is developed just for its own sake, so as to dominate others.

19.3.2 Humanity's mandate with respect to the rest of reality

The opening up of the potential of various aspects gives human beings enormous power – for either good or ill. Dooyeweerd held that humanity has a mandate to open up the potential of all the aspects in harmony, for the good of the whole of temporal reality, non-human as well as human, and to do so with wisdom, humility and courage.

To date, via the sciences and disciplines, humanity has opened up a number of aspects. The opened-up formative aspect, in the shape of technology, multiplies the power of achievement (of good or ill). The opened-up lingual aspect means the spread of knowledge, beliefs and attitudes. The opened-up social aspect means we work together more effectively – but it also magnifies groupthink. The opened-up economic aspect increases efficiency. The opened-up aesthetic aspect gives us more delights to seek after. As the human population has burgeoned, the amount of good we can bring, or damage we can do, to the world has increases enormously.

To Dooyeweerd, this power imparts responsibility to ensure it is wielded in a way that fulfils the norms of all aspects (Schuurman, 1980). Sadly, for most of its history, humanity has done the opposite. On the one hand, sections of humanity have often elevated an aspect as of supreme importance, suppressing and ignoring others; common examples include elevating technology, economy or religion at the expense of other aspects. On the other, humanity has used the opened potential to serve its own ends, especially the ends of the wealthy and privileged. Both ways undermine sustainability.

Some might try to react against the elevation of one aspect by drawing attention to another aspect and, in turn, elevating that aspect. This has been particularly true in the environmental movement (Basden, 1999). However, this reactive, dialectical approach has seldom proven effective in bringing sustainability about, because sustainability requires all aspects to be practised well. Those who react against the techno-economic system, for example, might produce good ideas but are usually ineffective since they deny themselves the good that technology and economic functioning (careful management) can bring.

By contrast, Dooyeweerd tries to recognise the unique power and contribution of every aspect and how the aspects work together. Not only can his philosophy account for the failure of the others, in terms of aspects they ignore, but it can also chart a route to a more integrated approach in which we aim at harmony among the aspects.

19.3.3 The first proposal

The above collection of suggestions for how Dooyeweerd's philosophy can assist our thinking and practice within sustainability can be embraced within a single proposal: that Dooyeweerd's philosophy provides a sufficient basis for researching, understanding and planning for sustainability, on which extant discourses about sustainability may be integrated.

It has been shown how Dooyeweerd's philosophy is able to address issues in sustainable or resilient urban living, in construction, in ICT tools to help sustainability and in thinking about sustainability within planning or research.

All these contribute to what Dooyeweerd sees as humanity's mandate to open up the potential of each aspect with responsibility for the rest of temporal reality. Many share his view, but Dooyeweerd also provides an ideological, moral and philosophical foundation for it, which most others lack. His notion of law side brings human and non-human together. His notion of aspects provides a non-reductionist basis for addressing diversity in a way that includes meaningfulness and provides a normative thrust. His suite of 15 aspects provides a conceptual tool for separating out the diverse issues that are important in sustainability, in a way that none is elevated over others, so that harmony may be maintained. The aspects cover both human and non-human issues, at individual, social and societal levels. His critique of theoretical thought provides a basis for thinking about sustainability, in both research and planning, and a framework within which extant research may be seen as part of a whole picture.

Dooyeweerd might not provide answers, but he offers a framework within which we can at least do four necessary things: (i) highlight aspects that have been or are being overlooked, (ii) understand the role of every aspect in sustainability and thus encourage us to act without fruitless reaction, (iii) understand the power of humanity in all this and (iv) highlight and direct the responsibility of humanity in all its activities in the built environment.

19.4 *The importance of attitudes and beliefs to sustainability*

It is being increasingly argued that the problem of sustainability (including climate change) will not be properly addressed until and unless the self is changed, as du Plessis put it in Chapter 3. Ratcliffe (Chapter 2) argues that getting people to change (their minds) is one our biggest challenges. How is this to be achieved? That is the question with which Brandon (Chapter 1) challenges us.

Dooyeweerd would predict that, though all these have a part to play, education, politics, the economic system and technology are not sufficient. Between them, they do not exhaust all the aspects. The ethical and pistic aspects are particularly important and necessary, as prevailing values, attitudes and beliefs, because these impact the functioning in all other aspects via inter-aspect dependency mentioned earlier and are aspects that are particularly important for our sense of self.

19.4.1 The ethical aspect: self-giving and sacrifice

The ethical aspect suggests that sustainability will not be achieved while society and individuals are driven primarily by attitudes of self-interest or self-protection. It will only be achieved once the attitude that pervades society (and is held among many individuals and especially opinion-formers) is one of self-giving, willing sacrifice, vulnerability, repentance ('I was wrong') and forgiveness. Their opposites include self-centredness, reluctance to sacrifice, self-protection, self-justification and continual rehearsal of wrongs. Such attitudes are seldom visible but deeply influence our lifestyles and, in the public sphere, our political, economic, social and other decisions.

The ethical aspect can predict some of the things within its own jurisdiction that are necessary to make real progress on sustainability. However, except when speaking in weak generalities, such predictions take on a moral tone that can offend, such as emanates from strident environmentalists. The ethical aspect would predict that the prosperous sectors of the world must be willing to forego some of the comforts, conveniences and pleasures they currently enjoy that undermine sustainability in their embodied or operational carbon; at the same time, the developing sectors of the world must no longer aspire to those sustainability-undermining kinds of prosperity, which have been globally promulgated by an affluence-driven media, but aim for sustainable prosperity. The prosperous sectors must acknowledge the harm they have done, without excuse and without expectation of return, and eschew their harmful ways, while the developing sectors must forgive, without demand for reparations.

Inter-governmental climate agreements are full of self-protective clauses. Dooyeweerd would suggest these go against the norms of the ethical aspect and thus undermine and jeopardise the achieving of sustainability. It would take unusual courage – especially in a media-dominated democracy like those of the United States and Europe – to appear to be giving away one's own national advantages.

Does that sound impossible? Where does such courage come from? When focusing on the ethical aspect alone, it is impossible because the courageous motivation that this requires does not lie in the ethical aspect, but rather in the pistic aspect.

19.4.2 The pistic aspect: beliefs, commitments, courage, religion, ideology

The pistic aspect suggests that sustainability will not be achieved without challenging and renewing people's faith, beliefs, vision, mindset, worldview, aspirations, expectations, view of what is meaningful in life and direction of life. Commitment is important, as Mok and Shen (Chapter 12) argue, and Dooyeweerd extends this to courage to take radically ethical attitudes, standing out against prevailing attitudes and beliefs.

Historically, it is in religions and ideologies where the pistic aspect has been most active because these concern the deepest beliefs, aspirations and commitments. (The differences between religion and ideology are not discussed here.)

For the economic aspect there is a discourse around the processes and possibilities of specific economic systems, such as capitalist or Marxist, and how they relate to sustainability (e.g. Patel, 2011). For the social aspect, likewise. However, for the ethical and pistic aspects there is very little discourse around how the processes and possibilities of specific systems of ethics or beliefs relate to sustainability. Discussion of ethics and faith related to sustainability has been in general terms – such as which values and beliefs we should hold towards the earth. However, what specific ethical, religious or ideological ideas have to offer in pursuit of sustainability has been seldom discussed. This is what will be attempted here, very briefly.

The reason for this is complex, but much arises from what Dooyeweerd called the Scholastic ground-motive, which dominated mediaeval thought and still influences thought to this day: a presupposition that the sacred and the secular should be kept in different compartments. Religious faith and morals are now presumed by many to be a

purely private matter, subject only to personal choice, and their specific content is of little material significance in most academic fields. September 2001, perhaps, forced some to question this presumption but religion is now seen by some as fundamentally evil, rather than as something that might positively contribute. Indeed, pistic without ethical can be sectarian and dangerous, and ethical without pistic can be weak and ineffective. So it is important to consider these aspects together, along with their interactions with other aspects.

It is time to consider the dynamics of how particular religions or ideologies might help or hinder sustainability. Hereafter '*pistic system* (of thought and practice)' will be used instead of 'religion' or 'ideology'. Each pistic system or version thereof offers not only a set of values and beliefs, but also a view of how (or whether) the Divine acts with humans and the world towards some ultimate good, plan or story, and the relationship between humans and the world. Insofar as sustainability may be viewed as a broad good, plan or story, such views must be relevant.

19.4.3   Discourse on beliefs, values and attitudes

One example is now charted of how a pistic system might transform the inner selves of people towards sustainability, that with which this author is most familiar: a version of Christianity. Whether examples can be found in other religions or ideologies is not discussed here; study of for example Buddhism is recommended. The reader should be aware that what follows expresses a personal interpretation and commitment.

Very few discussions have occurred on how versions of Christianity specifically affect sustainability, environment or nature. One is White (1967), who argued that mediaeval Christianity was the root 'cause' of our 'ecological crisis'. According to White, this version of Christianity separated humanity from the rest of creation and aspired to control rather than contemplation. At the end, White advocates an 'alternative Christianity', based on the ideas of Francis of Assisi, who treated animals and the earth as equal with humans.

While White's criticism of mediaeval Christianity is worthy of consideration and response, it should not be used, as it has sometimes been over the past four decades, to exclude consideration of the potential that Christianity might offer in achieving the change of self that is required for sustainability. White's argument is poor, with sudden unwarranted jumps and a polemical style that he fails to justify. What he calls 'Christianity', against which his polemic is aimed, is in fact a limited kind – the mediaeval, Scholastic sort we have referred to above – and he largely ignores Protestant, Reformed and Pentecostal versions. Dooyeweerd's (1955) critique of the Scholastic position is more detailed and nuanced, arguing that it cannot be truly called 'Christian' and that it is actually the subsequent Humanist view, rather than any Christian view, that places humanity at the apex. While White's proposal of a Franciscan approach is interesting, it is too brief to let the reader judge whether or how it is likely to work, especially given that White remarks that Francis ultimately failed.

Though White (1967) does discuss the dynamics of a specific pistic system in relation to ecology, it is negative and historical rather than looking for positive future-oriented contributions.

The Papal Encycyclical *Laudato Si* (Francis, 2015) also briefly mentions some of the dynamics of its pistic system, such as a 'need to experience a conversion or change of heart' and 'the effects of their encounter with Jesus Christ' (Francis, 2015, p. 159) and also some tenets Francis of Assisi held, more deeply than White does. However, the link between the dynamics of this encounter and sustainability is weakly drawn, with change of heart treated as mere aspiration. Even though it recognises that a change of heart must be a community as well as an individual conversion, how this occurs in relation to sustainability is not discussed in enough detail. That conversion will lead to sustainability is more assumed than discussed and, like most other discussions, this document gravitates towards merely setting out a set of attitudes or values that we as humans 'ought' to adopt, such as 'loving awareness' or developing our 'God-given capacities' (Francis, 2015, pp. 160–161). The document might usefully stimulate a change of values about the rest of creation (or sustainability) among the large number of Roman Catholics. It is less useful, however, as a contribution to the discourse around sustainability itself.

It is within sustainability discourses themselves that discussion is needed about the dynamics offered by specific pistic systems. One that might do this is Prince Philip and Mann (1989). Recognising the importance of pistic functioning, Prince Philip invited five of the world's major religions to Assisi in 1984 to present their attitude to nature. He was disappointed that what was presented by the Christian churches was little different from that of the Jewish religion – nature belongs to God, so we ought to respect rather than plunder it.

So he instituted a Consultation on *The Christian Attitude to Nature* during the late 1980s, to which this author was invited to contribute. The outcome was published (Prince Philip(and Mann 1989), going beyond the Jewish ideas in several ways, by adding the activity of Jesus Christ and the Spirit of God. Despite its establishment origins, the document contains some radical ideas. The following briefly summarises and paraphrases what the Consultation found, supplemented, expanded, updated with material from other sources and applied to an historical example.

19.4.4   The dynamics in one Christian view

The specifics of this pistic system are briefly as follows. Jesus Christ (whom Christians see as God manifest in human form) makes it possible to become acceptable to God as an unmerited gift, rather than as a reward for religious practice or ethical uprightness. If a person accepts this gift, the Holy Spirit (of God) begins to dwell in their deep inner self and starts a transformation process. Depending on the extent to which the person freely cooperates with the Spirit of God, the person is transformed deeply inside. Things become meaningful to them in new ways, with different aspirations and so on (pistic aspect), combined with a self-critical and self-giving attitude (ethical aspect). This in turn transforms functioning in other aspects, as expressed by the early Christian thinker, Paul, as 'the fruit of the Spirit': love, joy, peace, patience, kindness, goodness, faithfulness, gentleness or humility, self-control. This is an attitude towards 'the other' – including both human and non-human. According to this version of Christianity, it is solely

the Spirit of God that accomplishes this and provides courage to stand against prevailing views and to persevere, rather than laws, education, politics, economic incentives and so on – these play a supporting role.

The impact of this can be not just on the person, but also on their community and society. To the extent that such people allow the Spirit of God to change their lifestyle, values and worldview and to prompt them to courageous yet self-effacing action in the *agora* (public space), others around them can be affected, – grassroots, politicians, opinion-formers and so on. Bodies of knowledge as developed by the sciences and professions can also be impacted.

There have been several incidents of this occurring on a wide scale in recent history, one being the abolition of the slave trade. This was seen by Metaxas (2007) as much more than a change in policy and laws; it was a change in foundational attitudes and beliefs in society (collective ethical and pistic functioning). At that time, most people assumed that slavery was part of the 'natural order', essential for their growing economy and necessary for the war against France. Yet the change happened: not only did laws change, but slavery was no longer believed in as necessary or good.

The reasons it occurred are many, and contributions from functioning in all aspects and at all levels of society must be recognised. However, it is the specific content of the pistic system of the kind of Christianity that William Wilberforce and his colleagues experienced which must be seen as crucial. It gave a clear vision (Metaxas, 2007) to William Wilberforce and to various Wesleyan and Calvinist believers of the time, along with the courage to persevere even though often resisted and sometimes derided by society at large; see for example Clarkson (1836).

19.4.5 Application to sustainability

Metaxas (2007) remarks that the change that the slave-trade abolitionists sought of the British people was as radical as asking people today to give up driving cars (or trucks). Yet it happened. It happened because of their sustained commitment (pistic functioning) and willingness to sacrifice for the sake of good (ethical functioning).

Is it possible that something similar could occur in relation to sustainability, given for example that transport is a major contributor to climate change emissions? It is challenging, but not impossible, if the pistic dynamics outlined above are valid, because it addresses people's aspirations, expectations and attitudes. Various authors (Prince Philip and Mann, 1989; Basden, 1988; Campolo, 1992) apply the fruit of the Holy Spirit specifically to attitudes to the natural world, for example:

- Love, including of the natural world, and hence a desire to cherish and protect it;
- Peace, including with the natural world, and hence an active sacrificial desire to prevent its destruction;
- Patience, including with the speed at which the natural world works, which can act as a curb on unbridled competition;
- Self-control, including resisting the pressure to maximize profits and being content with 'enough' instead [c.f. Simon's (1956) 'satisficing'].

At the individual level, a person changed by the Holy Spirit aspires less to self-centred conveniences, comforts, fashions or pastimes that undermine sustainability and begins to find their enjoyment and achievement via other, more sustainable, means. For example people might not only choose to walk or cycle rather than jump in the car (kinematic aspect), not only choose to holiday and find their leisure locally (aesthetic aspect) rather than involving air travel, not only privilege local and organic food (biotic aspect) and require less of it (economic aspect), but also be willing to sacrifice such things as convenience and habit (ethical aspect). They will think such things through critically (analytic aspect).

At the community level, conversations (lingual aspect) might focus less on the self and more on the other (ethical aspect), and collective action might be taken (social aspect). The changed person has the courage to be different from others, even when derided, and has the persistence and commitment to continue despite adversity. It has been found that a greater sense of responsibility to 'the other' (human and non-human) begins to pervade organisational and business life, affecting the ecological footprint.

At the level of society the changes affect societal structures, which, as we saw in the abolition of the slave trade, includes policy, pervading attitudes (self-giving rather than self-protection) and prevailing beliefs that give courage to act and sustains perseverance in the case of resistance.

That is the potential – and there are some historical precedents for it.

19.4.6 The second proposal

The second proposal is that the specific content of pistic systems (religions or ideologies) needs to be discussed as part of the discourse around, or action towards, sustainability and not just relegated to 'religion'.

It is not sufficient to discuss only faith or ethics in general; the discussion needs also to include the dynamics offered by specific pistic systems and their effect on functioning in all aspects, at all levels. This discussion needs to take account both of specific pistic theory (which is often expressed as 'doctrine' in religious practice) and of historical cases in which it has been worked out. The example of the abolition of the slave trade, and the change in societal beliefs that attended it, was examined in an indicative rather than exhaustive way to show the operation of one version of Christianity. That example and its pistic theory deserve more investigation within the discourse of sustainability, rather than in the discourse of religion. So do examples and pistic theory from other pistic systems.

19.5 Conclusion

Two proposals have been made. The first is that Dooyeweerd's philosophy can help us understand sustainability as multi-aspectual functioning and values and can offer a practical conceptual framework for evaluating and guiding towards sustainability. Sustainability itself is seen as the state in which individuals and society function well in every aspect.

It has been shown how the importance of each of the chapters in this book may be affirmed by reference to Dooyeweerd's suite of aspects and situated according to the aspectual contribution to sustainability each might offer.

The second proposal begins with Dooyeweerd's ethical and pistic aspects, because our pistic functioning deeply influences our functioning in all other aspects. However, it can be considered separately from Dooyeweerd's aspects, since it goes beyond aspectual functioning to consider the dynamic activity of the Divine alongside humanity and the world. It suggests that, in addition to trying to advocate general attitudes, values or beliefs, those concerned with sustainability and with our ecological crisis in general should seriously discuss the dynamics offered by specific pistic systems (religions or ideologies). One religious theory has been examined as an exemplar, a version of Christianity that understands the role of the Spirit of God to transform the hearts of people, communities and society.

I am not hereby trying to promote (one version of) Christianity, and I would welcome discussions of a similar kind in other pistic systems. The discussion of this version of Christianity is offered as an exemplar, as a possible template for discussion of other faiths and ideologies. The challenge is to find an alternative way of effecting the deep transformation of the self that du Plessis (Chapter 3) and Ratcliffe (Chapter 2) believe is necessary, a change in pistic orientation which will deeply influence the functioning in all other aspects that pertain to sustainability. Research is needed on this – but it should not take too long.

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