

## A Presentation of Herman Dooyeweerd's Aspects of Temporal Reality

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### *Abstract*

Dooyeweerd's suite of aspects is attracting interest as an aid in analysis, discussion and research, partly because the aspects express the diversity and coherence of meaning and normativity that we experience in everyday reality. Unfortunately, no substantive, systematic discussion of these aspects is available that serves the needs of multi-aspectual practice. This article seeks to provide a starting-point for both those who seek a practical yet substantial understanding of Dooyeweerd's aspects, and those who wish to discuss aspects critically, especially in relation to each other.

Each of Dooyeweerd's fifteen aspects is discussed, first facilitating an intuitive grasp of the aspect's meaning and the good possibility that it brings to temporal reality, then more technical discussion that includes a summary of Dooyeweerd's own treatment. Though each aspect is presented separately, Dooyeweerd held that they cannot be separated in reality, so the coherence of aspects is also discussed.

**Keywords:** Aspects, Meaning, Normativity, Multi-aspectual functioning, Diversity and coherence, Dependency, Anticipation and Retrocipation.

### *1. INTRODUCTION*

It is appropriate that the first issue of a journal contains a paper that enables discussion of the basis on which the journal rests. The *International Journal of Multi-aspectual Practice* came into being partly because of the suite of fifteen aspects of temporal reality that were identified by Herman Dooyeweerd. Dooyeweerd's [1955] aspects are increasingly found useful in practical analysis, such as in Eriksson [2001], and in the critical enrichment of extant theories and methodologies, such as in Basden & Wood-Harper [2006].

An article about these aspects is needed to which other articles can refer. Unfortunately, no substantive, systematic discussion of Dooyeweerd's suite of aspects is available that serves the needs of multi-aspectual practice. This article seeks to provide one. It has two purposes, for different readers: to introduce Dooyeweerd's aspects to those who wish to engage in multi-aspectual practice, and to provide a reference-point for deeper discussion and critique of the aspects.

#### *1.1 Aspects of Temporal Reality*

Suppose you are writing a letter. Many different kinds of question may be asked about what you are doing, such as: How many words, paragraphs, sections are written? How large a sheet of paper is being written on? Is the writing fast or slow? Might the writing (ink) fade over time? Do I write badly when ill? How do I feel while writing? Is light too dim to see what I am writing? Is it clear what I want to write about? Do I have a plan and structure? How can I best express what I want to say? What phrasing suits the intended readers? What connotations will the words carry? Do I have to keep to a word limit? Is my writing interesting or boring? Does what I say all hang

together? Am I doing justice to the topic? To the readers? Do I write with goodwill and generosity? Do I believe in what I am writing? Is it important?

Each question indicates an aspect of the writing activity. An aspect is a way of looking at something, a way in which things can be meaningful.

Aspects are referred to whenever we delineate a set of categories that should be taken into account separately and not reduced to each other. Often this is informal, as when managers employ easy-to-remember lists like the well-known time-cost-quality triple, or Adam [1998,p.180] writes of “a number of aspects of knowing” to differentiate embodied from propositional knowledge. When it is important to ensure distinctions are clear and valid, delineation of aspects becomes more formal, as when Dahlbom & Mathiassen [2002,p.135] distinguish three types of quality: functional, aesthetic and symbolic. Eventually thinkers devise ontological categorisations, such as physical, chemical, biological, technical, social [Bunge, 1979]. Maslow’s [1943] famous hierarchy of needs can be seen as a suite of aspects. It is very natural for human beings to think aspectually, and Dooyeweerd argued [1955,I:41-44] that when we think theoretically we inevitably separate out aspects. Whether formal or informal, all analytical thinking presumes a suite of aspects.

### 1.2 Suites of Aspects

Does it matter which suite of aspects we adopt? In multi-aspectual practice a suite of aspects should be comprehensive enough not to omit any that might be (potentially) relevant, should be applicable to the types of phenomena encountered (needs, systems, ways of knowing, etc.), should be such that its aspects do not overlap or repeat each other, and should be reasonably understandable and agreeable to others (these criteria are stated without discussion). Basden [forthcoming] will argue that Dooyeweerd’s suite largely fulfils these three conditions, whereas the suites of Bunge, Maslow and others do not. Dooyeweerd seldom systematically listed his aspects, but did so page 3 of [1955,I]:

An indissoluble inner coherence binds the numerical to the spatial aspect, the latter to the aspect of mathematical movement, the aspect of movement to that of physical energy, which itself is the necessary basis of the aspect of organic life. The aspect of organic life has an inner connection with that of psychical feeling, the latter refers in its logical anticipation (the feeling of logical correctness or incorrectness) to the analytical-logical aspect. This in turn is connected with the historical, the linguistic, the aspect of social intercourse, the economic, the aesthetic, the jural, the moral aspects and that of faith.

Though he defended the inclusion of these aspects (confusingly, under a variety of names) Dooyeweerd made clear [1955,II,p.556] that his suite makes no claim to absolute truth:

In fact the system of the law-spheres {aspects} designed by us can never lay claim to material completion. A more penetrating examination may at any time bring new modal aspects of reality to the light not yet perceived before. And the discovery of new law-spheres will always require a revision and further development of our modal analyses. Theoretical thought has never finished its task. Any one who thinks he has devised a philosophical system that can be adopted unchanged by all later generations, shows his absolute lack of insight into the dependence of all theoretical thought on historical development.

Much has changed since Dooyeweerd wrote. Even though his thought prefigures much that has since happened in philosophy and social theory, such as with the Frankfurt School and postmodernism [Strauss 2009; Smith 1999], the world itself has changed — such as the advent of the Internet, the dominance of globalisation and the growing awareness of environmental crisis

and responsibility. For these reasons, some have suggested modifications to Dooyeweerd's suite (see section 5). Dooyeweerd's suite remains largely intact, though in the discussion below some aspectual meaning will be interpreted more broadly than perhaps Dooyeweerd himself allowed, to take account of today's situation.

### 1.3 This Article

Dooyeweerd's own detailed discussion of the aspects, which occupies 300 pages of volume II of Dooyeweerd [1955], is not serviceable to our requirements, partly because it is frequently interrupted by discussion of other views and partly because it was written, not for the purpose of explaining the aspects, but to discuss the process of identifying them. So systematic discussion of the kernel meaning of aspects is required. Individual aspects have been discussed [e.g. Stafleu, 2001, 2003, 2007], as has the philosophical notion of aspectuality, but there has been very little discussion of the kernel meanings of aspects taken all together. Such discussion is important because only in relation to each other can the aspects be properly understood, and be employed in multi-aspectual practice. This paper provides such a discussion.

Section 2 briefly explains certain philosophical concepts necessary for the main discussion. Section 3 systematically discusses each of Dooyeweerd's aspects, some named differently from Dooyeweerd's list, aiming to impart both an intuitive understanding of the kernel of each aspect for us in multi-aspectual practice, and pointers for deeper, critical study.

The aspects can be read in any order if desired. From at least the analytical aspect onwards styles vary to reflect something of the aspect (for example, contrast analytical with aesthetic). Section 4 brings all the aspects together because Dooyeweerd stressed that in everyday experience they are all "given together" [Dooyeweerd, 1955,II,p.39]. Section 5 reviews the discussion of aspects and briefly discusses the validity of Dooyeweerd's suite and of this interpretation thereof (a discussion expanded in Basden [forthcoming]). Section 6 concludes the article.

## 2. CONCEPTS EMPLOYED IN THE EXPLANATION

To Dooyeweerd, aspects are not only categories, as in Maslow [1943], not just types of system [Bunge, 1979] or action [Habermas, 1986], but something deeper that makes such things possible. Aspects are closely tied to the very structure of temporal reality, as spheres of meaning, which makes being possible, and spheres of law, which makes both functioning and normativity (good/evil) possible. Stafleu [2003] calls aspects 'relation frames'. Dooyeweerd's main discussion of the aspects is in volume II [1955].

Aspects are **spheres of meaning**, providing different ways in which things in all temporal reality can be **meaningful** (and can be viewed as such); see the ways in which letter-writing can be meaningful. Around each aspect is a constellation of meanings that we can experience, but at its centre is what Dooyeweerd called a *meaning kernel* or nucleus, which is often referred to as *aspectual meaning*. Aspectual meaning cannot be grasped by theoretical thought but only by intuition [Dooyeweerd, 1955,II, p.129], so is impossible to define precisely, and discussion of aspects below seeks to provide an intuitive rather than precise understanding. According to Dooyeweerd [1955,I,p.4] it is aspectual meaning that makes being of things possible. For example, a poem *is* a poem, *qua* poem, by virtue of the aesthetic aspect, and at the same time *is* a piece of writing by virtue of the lingual aspect.

Aspects are **spheres of law**, which is the foundation for **functioning, repercussions and normativity** of and in all temporal reality. Each aspect introduces law that corresponds with its meaning and likewise can only be grasped with intuition, never precisely defined. Aspectual law

takes the form of promise: “to the extent that you obey this, then corresponding good is likely to result.” One example from the lingual aspect: if we obey the syntactic rules our language provides, then people are more likely to understand us. (Lingual aspectual law covers more than syntax, of course.) There can be no lingual functioning at all except by response to (obeying or disobeying) lingual law and no lingual repercussions (namely, understanding or misunderstanding). The good that is understanding another’s signified meaning is made possible only by lingual aspectual law. Thus the laws of all aspects govern all temporal reality, enabling functioning and repercussions of diverse kinds, and each aspect introduces a good possibility that is unique to it. In the first few aspects law is deterministic but later aspects allow latitude of response.

It is important not to confuse aspectual law with humanly- or socially-constructed rules, laws or (social) norms. For example, syntactic rules of a language are socially constructed, but the aspectual law/promise, that if we keep to them we will be understood, is not; it is deeper and is the reason why syntactic rules occur at all. Likewise aspectual law must not be confused with *human knowledge of* aspectual law; temporal reality functions and experiences repercussions and normativity whether we know the aspectual laws that govern it or not (example: physical law of gravity).

No aspect can be reduced to others in terms of its meaning and law, nor can any be satisfactorily explained in terms of others. Though Dooyeweerd conceptually separated the aspects in order to discuss them, he also stressed that they cannot be separated in temporal reality and all work together. Human activities exhibit all aspects (‘multi-aspectual human functioning’) and if we function in line with the laws of all aspects a rich multi-aspectual well-being arises, a kind of good known as *shalom (salaam)*. There is no inherent contradiction between aspects that would prevent what van der Kok [1974] called simultaneous realization of norms. Evil arises either from transgressing the laws of one or more aspects or by unduly elevating (absolutizing) any aspect such that others are ignored or obliterated (cf. Eriksson [2001]), whether in personal and organisational life or societal mindset. According to Dooyeweerd, absolutization of aspects has been frequent in much extant philosophy.

The inherent coherence of the aspects is expressed in several types of inter-aspect relationships. One is order: the aspects form a sequence, not from lower to higher, because Dooyeweerd held that all aspects are equally important, but from earlier to later. In this sequence, aspects both **retrociate** earlier (foundational) aspects, in a manner reminiscent of Hartmann’s [1952] ‘bearing’, and **anticipate** later aspects. A second relationship is dependency, where aspects ‘need’ each other, differently in the anticipatory and foundational directions. In the foundational direction the functioning in an aspect depends on good functioning in earlier ones; for example social functioning depends on good lingual functioning. In the anticipatory direction an aspect’s meaning is not fully realized without reference to meaning from later aspects; for example the lingual aspect is rather, though not entirely, sterile if not used to enable social functioning. The third relationship is analogy, where the meaning of each aspect is echoed in the others. For example we say an economy ‘grows’ (biotic analogy in the economic aspect). The fourth relationship is what Basden [2008] (not Dooyeweerd) calls ‘reaching out’: functioning in an aspect always involves another as a target or object; for example we can have a feeling of space [Dooyeweerd, 1955,II:118] (psychic reaching out to spatial).

In section 3 occasional mention is made of ‘leading’ aspects. As part of Dooyeweerd’s theory of individuality structures in Volume III of Dooyeweerd [1955], which treats all things (including events) as exhibiting all aspects, the leading aspect of a thing is the one that most characterizes its destiny and the norms that govern it.

### 3. DOOYEWEERD'S SUITE OF ASPECTS

Fifteen aspects of temporal reality are discussed and may be read in any order. The first three — quantitative, spatial and kinematic — are what Dooyeweerd called mathematical aspects because they are pre-physical. The next three — physical, biotic and psychic/sensitive — are pre-human aspects, in that they govern material, plants and animals, though they also apply to humans. The next three — analytical, formative and lingual — govern individual human cognition. The next three — social, economic and aesthetic — are aspects of our living together. The final three aspects — juridical, ethical and pistic/faith — are especially important in the health of society.

The aspects in Dooyeweerd's suite are discussed, usually in four subsections, to provide answers to the following questions:

1. (The aspect as sphere of meaning.) How can we grasp the meaning of this aspect? To provide intuitive grasp of its kernel meaning, a phrase tries to express how the aspect is experienced in everyday life, and accompanies an illustrative, non-exhaustive indication of the constellation of things, activities and properties that are meaningful within its sphere.
2. (The aspect as sphere of law.) What good possibility does this aspect introduce to temporal reality? In what way might temporal reality be poorer or impossible without it? Functioning in each aspect, which brings repercussions that can be good or bad, is discussed. An understanding of good (and bad) possibility is sought that extends beyond merely enabling the next aspect's functioning; this requirement especially shapes understanding of kinematic and lingual aspects.
3. Why are the above valid? Where can we find more? Dooyeweerd's discussion is briefly summarised, with critique, sometimes with other material. Much of Dooyeweerd's discussion was aimed, not at clearly explaining aspectual meaning, but at uncovering why previous thinkers had misunderstood, and at arguing why the aspect cannot be reduced to others.
4. How does this aspect relate to others, and especially anticipate the next? A brief (non-exhaustive) reflection on foundational dependencies, analogies and anticipatory dependencies is offered, usually ending with how the aspect anticipates some meaning from the next aspect.

These might go beyond Dooyeweerd's own rendering, taking into account today's situation. They fulfil the two purposes of this article. The first two subsections might be useful for intuitive understanding of the aspects for use in multi-aspectual practice. Critical discussion can use this intuitive rendering as a reference-point but will also need the third and fourth subsections.

#### 3.1 The Quantitative Aspect

1. We experience the quantitative aspect (as sphere of meaning) most intuitively and directly as **one, several and many**, and comparisons of **less and more**. Concepts like approximate, average, minimum, maximum, quantity, amount, number, fraction, ratio, prime number, are meaningful in the quantitative aspect. Addition, incrementation, division, and so on are functions that are meaningful in the quantitative aspect. Statistical analysis is a human activity very much of the quantitative aspect (though also of the analytical).

Counting itself, though led by the quantitative aspect, also involves analytical functioning (distinguishing things to count) and lingual symbolisation. The less-and-more relationship in the quantitative aspect provides us with a natural way of placing things in order: 1, 2, 3, ...

Since being is meaning, to Dooyeweerd, we may ask “What exists by virtue of the quantitative aspect?” We find, for example, 4 fingers on a hand and 4 points on the compass, but the quantitative aspect does not care about fingers or compass-points. To the analytical aspect (q.v.) there might be two 4s here, but to the quantitative aspect there is always only one 4. It is not number-of-things that exists, but what we might call ‘numberness’, quantity-as-such. So 4-ness exists, as does one-ness, six-ness, 146-ness, 3/4-ness, 3.9-ness and so on. In there being 4 fingers and compass-points the quantitative aspect is ‘reaching out’ to the biotic and spatial aspects.

2. Functioning in the quantitative aspect feels, not like the dynamic agency found in most aspects, but more like possessing an attribute or property, or ‘being’ of a certain amount. The fingers on my hand ‘are’ four, as are the points of the compass. Change in amount (e.g. when one finger is cut off) is not itself quantitative functioning, but functioning in another aspect, which thereby functions in the quantitative aspect in a different way (exhibiting 3-ness rather than 4-ness).

The quantitative aspect introduces a fundamental ‘good’ that enables temporal reality to exist (and mathematics to be foundational): **reliable amount and order**. Quantitative amount is reliable because each amount (numberness), other than infinity, always and in all situations retains the same quantitative meaning and differs from all others. All remain in the same order of less and more, for example 4-ness is always after 3.9-ness and before 4.1-ness. This is so fundamental that we usually take it for granted, yet functioning in all other aspects relies on this.

3. Throughout his work, Dooyeweerd placed continual emphasis on “unity and multiplicity”, “the one and the many”, as a fundamental retrocipation back to the quantitative aspect. For a full account of Dooyeweerd’s discussion of the quantitative aspect see [1955,II:79-93].

He stressed that quantity is *discrete*, not continuous. Dooyeweerd held that ratios are relationships between amounts rather than amounts, but I prefer to see them as genuine ‘numbernesses’ on the grounds that we can find them using purely quantitative reasoning without importing meaning from any other aspect. This cannot be said of irrational numbers, for instance.

4. Irrational numbers like the square root of two have little meaning to purely quantitative thinking and cannot be discovered by purely quantitative processes: if we try to approximate it by two rationals greater and less than it, they can never converge onto it precisely. Irrational numbers anticipate the spatial aspect in that they become important only when spatial meaning is imported. Differential functions anticipate the kinematic aspect [Dooyeweerd, 1955,II,p.94]. Zero and negative numbers might anticipate the economic aspect. Similar accounts may be made of transcendental and imaginary numbers.

This is the first illustration of **dependency in the anticipatory direction**: something in an aspect remains a speculative curiosity, without much meaning (though it might possess interesting properties), until we import meaning from a later aspect to make it worthwhile. This may be why such numbers took time to be discovered over the past 2,500 years, usually by people working in other aspects.

### 3.2 The Spatial Aspect

1. We experience the spatial aspect directly and intuitively as **here, there, between, around, inside and outside**. These are spatial relationships (and there are many more, such as left and right). Spatial properties include shape, position, size, angle, orientation, proximity, surrounding, overlap, and so on. Things that gain their meaning from the spatial aspect include particular shapes (circle, triangle, line, spiral, etc.), angles, distances, holes, space, area,

dimension and so on. Like quantitative functioning, spatial functioning feels to us like a static property. A wiggly line is spatial, but if we call it a 'path', then we are importing some kinematic meaning of 'going'.

2. The spatial aspect introduces two things into temporal reality that are impossible, and cannot be understood, purely from the quantitative aspect: **simultaneity and continuity**. A quantitative thing in temporal reality, such as a set, can never exhibit two different amounts (e.g. 6 and 7) simultaneously, but a spatial thing, such as a triangle, is both here and there simultaneously since it extends from here to there and over all in between. If it did not, the triangle would be incomplete. The extension from here to there is continuous, not in discrete steps.

3. Dooyeweerd's discussion of the spatial aspect is, unfortunately, all over the place and interwoven with discussion of its relationship with other aspects [1955:II,63-65,85-96,98-106]. He used the phrase '*continuous extension*' to express the kernel of the spatial aspect but this is somewhat technical language open to being misunderstood: in ordinary life 'extension' often refers to processes of extension, such as of deadlines. It is misleading to think of positions as discrete points (as we do when plotting graphs), however, because spatial position is continuous [p.102]. When we do approximate a position to a discrete point we are conceptualising it (analytical aspect) and when we identify it as (x,y) we are transducing spatial reality to the quantitative. It is also misleading to conceive of space as being 'filled up' with physical things [p.95].

4. The spatial aspect depends foundationally on the quantitative aspect, for example the number of dimensions is a 'reliable amount'.

The aspects are replete with analogies to and from the spatial aspect. Concepts like big, small, near, far provide an example of **retroicipatory analogy** from the spatial to the quantitative aspect: we are seeing spatial properties in terms of amount that is ordered as more and less. Conversely, when the word 'around' is used to mean 'approximately' ("There were around 40 at the meeting") we are speaking quantitatively but using an **analogy that anticipates** the spatial aspect, treating numbers as being in spaces with other numbers nearby. Other spatial analogies include speaking of boundaries (e.g. of knowledge, of authority), areas (e.g. of study), proximity (e.g. in art) and so on. The relativistic stretching and curvature of 'space' discovered by Einstein refers, not to space as such, but to a physical analogy of space [Dooyeweerd, 1955,II, 101].

If change (in position or shape) is considered at all it is treated as replacing one entire spatial field by another, as in cinematic film, rather than as change to the spatial field itself. Such change is only meaningful in the kinematic aspect.

### 3.3 The Kinematic Aspect

1. We experience the kinematic aspect (sphere of meaning) intuitively as **going** and **continuous flowing** [Dooyeweerd, 1955,II, 96]. We could say "movement" but this is confused with mere change of location (spatial) whereas kinematic movement is smooth. It can be helpful to think of flux, as of the air on a windy day, the shifting colours of the Northern Lights, or a full-screen animation of abstract patterns, but one must remove intuition of physical stuff from the first and of sensory perception from the other two. In animation, the movement comes from the change in colours of pixels on the screen and not from any corresponding physical movement.<sup>1</sup>

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<sup>1</sup> There will be physical movement of electrons in the electronics of the screen that generate the colour of pixels or in the brain, but these movements do not correspond with movement across the screen.

Going and flowing imply backward and forward, which were meaningless in the spatial aspect. Expanding, morphing, rotation, route, path and speed and properties like fast, slow, dynamic are some other kinematic concepts.

2. When something functions in the kinematic aspect there is **change** in temporal reality, of which the quantitative and spatial aspects know nothing.<sup>2</sup> In the quantitative aspect the number(ness) 7 never changes, and in the spatial aspect the triangle we mentioned does not change. We might say that the quantitative aspect is pure before-and-after with no simultaneity and the spatial aspect is pure simultaneity with no before-and-after, but the kinematic aspect merges before-and-after with simultaneity. The kinematic is the first aspect to introduce the possibility of **dynamic variation** to temporal reality.

3. Dooyeweerd's main discussion of this aspect is found in [1955,II:93-106]. Originally he used the term 'motion' to characterize the kinematic aspect but this is not ideal [Kalsbeek, 1975:101] because, in conceiving of motion we tend to think physically. Indeed, Dooyeweerd himself once conflated the kinematic with the physical aspect [Dooyeweerd, 1955,II:98-99], so he subsequently employed the term 'mathematical movement', 'mathematical' distinguishing it from physical movement. From his extensive references to how this is echoed in other aspects it is clear that he means *change or variability*.

We tend to think of movement as relative to a static background, for example a bird flying across the sky, but from the perspective of the kinematic aspect, static background is neither necessary nor even meaningful, and assuming it reduces kinematic to spatial [p.98]. This reduction lies at the root of Zeno's famous paradox [p.103].

4. Nevertheless, kinematic functioning strongly depends foundationally on the spatial aspect and strongly anticipates the physical. This might explain why the kinematic aspect, often confused with these, has received less scientific attention. Speed is a kinematic concept but it retrocipates the quantitative aspect, by an analogy that enables us to say "less" or "more". Contrariwise, the mathematical notion of *variable* (an amount that changes), though primarily quantitative anticipates the kinematic aspect analogically.

Dooyeweerd suggested that acceleration is physical rather than kinematic on the grounds that acceleration must be caused and the kinematic knows nothing of causality. I prefer to think of it as kinematic on the grounds that the kinematic aspect knows of change and of movement, so there is no problem with it knowing of change of movement without needing to refer to what causes the change. But it requires the physical aspect to explain why such change occurs.

### 3.4 The Physical Aspect

1. We experience the physical aspect intuitively and most directly as **forces, energy and matter**, whether at the microscopic, human-level or macroscopic spans. Physical theory recognises four main forces, gravity, electromagnetic, weak nuclear and strong nuclear, with the latter three, and possibly gravity too, unified into one, and sees matter as energy.

Other concepts that are meaningful in the physical aspect include: material (solid, liquid, gas), electricity, friction, pressure, heat, current, power, vibration, dissolving, diffusion, chemical

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<sup>2</sup> 'Change' is not an ideal word because all later aspects exhibit it. Strauss [2010] sees change as physical and the kernel of the kinematic aspect as constancy, probably because "kinematics ... can define a uniform movement without any reference to a causing force" [Dooyeweerd, 1955,II:99]. However, the word "can" rather than "must", implies no restriction to uniformity.

activity, and so on. Disciplines centred on the physical aspect include not only the various branches of physics but also chemistry, materials science and fluid mechanics.

2. In obeying the laws of the physical aspect temporal reality is transformed continuously from one state into the next, in a way that persists and cannot (usually) be undone or reversed as is possible under the kinematic aspect. The good that the physical aspect introduces to temporal reality is thus **irreversibility, persistence and causality**. At the human and macroscopic spans, physical causality is deterministic (and hence predictable from initial conditions), though at the microscopic span of quantum physics it might not be. It is with the physical aspect that we first experience time as past-present-future.<sup>3</sup>

3. Dooyeweerd's discussion of the physical aspect is patchy and brief, scattered throughout his discussion of the kinematic, mainly to differentiate the two, [1955, II:95,99,100,101], though it crops up again throughout his work. He characterized the kernel of the physical aspect as above, as energy and force.

One common misunderstanding needs to be clarified, but it is not clear in Dooyeweerd: in the physical aspect there is no such thing as a distinct entity — not 'a' river, not 'a' metal bar that acts as lever, not 'an' atom, not 'an' electron. We might differentiate entities analytically for our own purposes (in everyday life and in physical-chemical theory), but physical aspectual laws do not stop at (what we conceive as) the boundary of the entity, but pertain over the entire cosmos. A river enters the sea: where does the river end and the sea begin? Where does an atom in a crystal end and the next begins? Are not electrons smears? Were quantum and relativity theories originally difficult to grasp precisely because of the presupposition of distinct entities?<sup>4</sup>

4. The dependency of the physical aspect on the spatial and kinematic is well-established by both Newton's and Einstein's deliberations. But physical and kinematic aspects should be kept separate because not only does the kinematic aspect offer us uniform movement that is meaningless to the physical, but the physical aspect offers us irreversibility and causality, which have no meaning in the kinematic.

Whether chemistry should be linked to the physical aspect, as in Dooyeweerd, or separated, as in Bunge [1979], is a matter that still deserves discussion, but here Dooyeweerd's view is adopted. Carbon-based chemistry, however, exhibits very curious properties, such as forming huge molecules composed of long chains. These properties are a mere speculative curiosity from the perspective of the physical-chemical aspect, and it is not until we anticipate (import meaning from) the biotic/organic aspect that they become important — and this is why study of them is called organic chemistry.

### *3.5 The Biotic/Organic Aspect*

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<sup>3</sup> Dooyeweerd contended that this linear, physical, 'clock' time, is only one aspect of time-as-a-whole ('cosmic time'). Other aspects of cosmic time include: biotic time as birth, growth, maturity, death; quantitative time as the order of more-and-less (before-and-after); spatial time as simultaneity; psychic time as duration of feeling (cf. Bergson), analytical time as premises before conclusions; and so on.

<sup>4</sup> Nevertheless it is not always inappropriate to think of distinct things in their physical aspect, for at least three reasons. Doing so involves the analytical aspect of distinction-making. Second, laws of physics tend to localisation: for example the nuclear forces diminish so rapidly that their effect is negligible outside atomic nuclei, and other forces usually keep electrons round nuclei and planets round suns. Third, human artefacts like the metal bar are usually formed as distinct things. However, the inherent holistic continuity of the physical aspect should always be remembered.

1. We experience the biotic aspect intuitively as **living as organisms in an environment** (hence 'organic'). In the biotic aspect many concepts are meaningful, such as: cell, tissue, organ, organism; nutrients, excreta; activities like digestion, respiration, excretion, reproduction; birth, growth, maturity, death; properties like healthy, old, female; relationships like symbiosis, parasite, ecosystem; concepts like species, genus and taxonomy, and so on.

2. But what is life? The difficulty in defining or even conceiving what life is shows that it is near the kernel of an aspect, since the meaning kernels cannot be grasped by theoretical thought. Might it be better to ask "Why is life good?" — what good possibility does the biotic aspect introduce to temporal reality that earlier aspects know nothing of? One good is the possibility of **distinct entities** that can **sustain themselves** within their environment, dependent on it but not wholly controlled by it, and **reproduce** after their own kind.

Unlike physical laws, which know no boundaries, biotic laws govern bounded organisms and collections thereof in their environment. An organism controls its inner equilibrium state autopoietically and has a boundary (skin) that separates it spatially and physically from its environment while allowing exchange of materials with the environment. By contrast, the inner state of physical things is entirely under the control of the surroundings and they cannot reproduce. Nor can dead organisms, which rot down and, still subject to physical laws, become absorbed. Separateness enters with the biotic aspect.

From the biotic aspect onwards it is meaningful to talk of negative as well as positive: death, disease, poison, starvation, and so on.

3. Dooyeweerd's discussion of the biotic aspect is relatively short [1955,II:107-111]. He argues why life cannot be reduced to physical and chemical processes even though it depends on them, and argues against both vitalism and mechanistic views. Eventually he characterizes life in terms of "vital unity" and "organizing" [Dooyeweerd, 1955,II,p.110], but not very clearly. The discussion above is an attempt to clarify Dooyeweerd's view.

Systems thinking, which became popular in the mid twentieth century as a way to overcome reductionism and individualism, has its roots in biotic thinking and draws heavily on biotic notions like environment, equilibrium and autopoiesis. Some systems thinkers entangle themselves in vitalism or materialism, because they do not see life as an aspect, a mode or way of functioning, but treat life as a special kind of process or material, or as a 'substance' that is added onto material. Hartmann [1952] makes the mistake of saying that life 'transforms' matter [Dooyeweerd, 1955,II, p.110-1 footnote].

4. Many biotic concepts find analogy in aspects where distinct entities are important. Birth, growth, maturity, environment have clear analogical meaning for businesses (economic entities). Health is used analogically for good in many aspects.

Biotic functioning depends on physical; for example digestion depends on chemical reactions — but such chemical reactions can only rightly be called digestion if they serve to keep their organism alive.

Nerve cells have special properties: very long dendrites which are surrounded not just by a cell wall but by a fatty sheath, so that activation in these cells finds its way to distant cells rather than diffusing to neighbours. What good this does cannot be understood from the biotic/organic aspect, but anticipates the psychic/sensitive aspect.

### 3.6 The Sensitive/Psychic Aspect

1. We experience the sensitive/psychic aspect intuitively as **feeling, sensing and responding**. Meaningful in this aspect are sentience and the senses (eyes, sight and seeing, ears, sound and hearing, nose, aroma and smelling, etc.), emotion of the kind experienced by animals

(hunger, fear, relaxation, etc.), mental activity (memory, perception, pattern recognition and so on) and lower-level processes like neuronal states and excitation. Instinct (not intuition) is of this aspect.

2. The good possibility this aspect introduces to temporal reality is **interactive engagement** with the world (the world as it can be sensed). This differentiates it from passive biotic reaction, such as a plant growing towards the light. The negative in this aspect is that which prevents or distorts interaction, such as sensory deprivation.

3. In his discussion of the psychic aspect Dooyeweerd [1955,II:111-118] first argues why the kernel meaning is feeling rather than soul, and then why psychic feeling cannot be set alongside volition and knowledge as *Erlebnisse* as in Kant: the latter are trans-aspectual while feeling is of this one aspect. However Dooyeweerd did not discuss psychic functioning at the lower level of neurones.

4. While psychic functioning depends on biotic (e.g. sentient beings must be alive) and physical (neuronal activity involves electro-chemical processes), it cannot be reduced thereto. Neurones, seen at the biotic aspect as cells with protoplasm etc. are seen, at the psychic aspect, as activated entities that stimulate and are stimulated. Protoplasm, *qua* protoplasm, has no meaning in the psychic aspect.

What is called mental activity may be differentiated into cognitive and precognitive (which includes the subconscious). In the precognitive activity we might or might not be aware of things and respond as animals do, whereas in cognitive mental activity we are 'thinking'. The difference between them cannot be understood from the psychic aspect, but anticipates the analytical.

### 3.7 The Analytical Aspect

1. Strictly, the meaning kernel of the analytical aspect is 'distinction' [Dooyeweerd, 1955,I:39]. But this word can mislead. It is not social distinction. Nor is it animals' ability to distinguish their mates from others. Rather, we experience the analytical aspect intuitively as **conceptualising, clarifying, categorising and cogitating**. Conceptualising is of something meaningful to us. We clarify that meaning, separating 'this' from 'that'. Categorising differentiates ways of being meaningful. Cogitating is thinking that involves these.

Here are more concepts that gain their meaningfulness from the analytical aspect:

concept, thought, logic, axiom, hypothesis, theory;

separating, classifying, identifying, thinking, analysing, reasoning, inferencing, deducing;

distinct, clear, confusing, cognitive, abstract, contradictory, illogical.

The text structure in this section expresses analytical separation.

2. Analytical functioning is conceptually "setting apart what is given together" [Dooyeweerd 1955,II,p.39]. One good possibility that this introduces to temporal reality is **ability to think independently** of the world as given. The biotic aspect enables distinct beings with dependence on the world. The psychic aspect enables interactive engagement with the world. The analytical aspect enables a degree of independence. Psychic mental activity is bound to the sensory input. Analytical mental activity is not. Its independence arises from the freedom we have to conceptualise something as distinctly meaningful to us. This freedom is not absolute autonomy. It operates by reference to spheres of meaning (aspects). This is analytical 'reaching out'. For example, we might distinguish quantitatively, "the first prime number more than 146", spatially, "bottom right-hand corner", physically, "this atom", psychically, "that smell", and so on. This independence enables human imagination and fiction. We might even conceptualise impossible

things, like a prime number divisible by 9. It also allows to to undertake **theoretical thinking**. It allows us to distinguish the aspects themselves.

The negative function in this aspect is that which prevents its good. Confusion prevents its good.

3. Dooyeweerd often called this aspect the logical aspect. His discussion of it may be found in [1955,II:118-125]. It consists mainly of discussion of relationships with other aspects. However, his whole *A New Critique of Theoretical Thought* is at least an indirect discussion of this aspect. Clouser [2005] calls this free conceptualisation 'abstraction'. He identifies three levels of abstraction:

distinguishing entities from their background,

distinguishing properties of entities from the entities themselves; this he calls 'lower abstraction';

abstracting basic kinds of properties away from entities altogether; this he calls 'higher abstraction'.

Dooyeweerd called the first the analytic subject-object relationship. It is important in everyday experience. The second is important in aspectual analysis. Dooyeweerd called the third a *Gegenstand* relationship. *Gegenstand* is a necessary condition for undertaking theoretical thinking. Unfortunately, Dooyeweerd gave far more attention to the *Gegenstand* relationship than to the subject-object relationship. This section redresses the balance.

4. Analytical functioning depends on psychic, biotic and physical functioning. There can be no disembodied minds in our temporal reality. It cannot be reduced to psychic functioning. Animals make psychic distinctions. That involves pattern recognition, not conceptualisation [Dooyeweerd, 1955, I, p.39].<sup>5</sup>

40 years of artificial intelligence research supports this. Cognitive AI systems model concept-structures. Precognitive systems model neural networks. Cognitive systems can stimulate human thinking. Precognitive systems cannot. But they prove more successful at recognising things.

Analytical conceptualising, clarifying, categorising and cogitating (including theoretical thinking) are of little value unless they enable us to act on or in the world. Everyday experiences tells us this. So do philosophical traditions in Scholasticism, Pragmatism and Marxism. The analytical aspect knows nothing of such engagement. Rather, it anticipates the formative aspect.

### 3.8 The Formative Aspect

1. We experience the formative aspect as **deliberate creative shaping** of things, usually with some end in mind. All kinds of things can be shaped: clay into pots, concepts into concept-structures, reasons into arguments, words into sentences, people into performers, social relationships into institutions, and so on. Meaningful in this aspect are such human activities as forming, designing, constructing, processing, controlling, determining, achieving; such things as ends, means, purposes, goals, plans, skills, craft, techniques, structures, tools and technology; properties like simple, complex, well-finished, innovative.

2. The good possibility that the formative aspect introduces to temporal reality is **achievement and innovation**. We use things available to us to achieve purposes, doing so more

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<sup>5</sup> Whether some higher mammals do engage in minor analytical, conceptual thinking is not discussed here.

innovatively than animals can. We create tools to achieve them more effectively. We repair and maintain things. We train apprentices to develop skills. We create institutions to help all this. We create infrastructure to enable us to live in ways not possible before. Thus humanity progresses.

But is progress good? That depends on whether we follow the norms of the target aspect: whether our purposes, tools, skills, institutions and infrastructure are oriented to torture or health (biotic, psychic aspects), to profligacy or frugality (economic aspect), to selfishness or self-giving (ethical aspect), and so on. Much Western progress is, therefore, dubious. Schuurman [1980] argued that technology should be guided not by its own norms (technological determinism) but by the norms of all other aspects.

Formative good can be hindered by laziness or destruction (not deconstruction). Refusal to innovate is not always negative because refusal might itself be a formative act aimed at overcoming injustice.

3. Dooyeweerd suggested that the kernel of this aspect is *formative power*. He called this the *historical* or *cultural* aspect because history is the story of human formative power or achievement [1955,II:193] and in Dutch the root of the word *culture* refers to human formative power (as in *agriculture*). Since, in English, history and culture are more social than formative, Dooyeweerd's terminology is misleading. A bit of Dooyeweerd's discussion of the kernel of this aspect is found on pages 68-69 of [1955,II] but the main discussion, which is lengthy because it discusses many other views, is on pages 192-217 and continues to page 298 in its discussion of links with other aspects, of history of humankind, and of progress as humanity's 'opening up' of aspects.

4. Formative functioning depends on analytical functioning (conceptualising, etc.) but it cannot be reduced to this, primarily because while the analytic aspect distances us from the world, the formative aspect achieves things in the world, and makes changes in the world. Analytical-formative might echo the theory-practice duality.

A lot of what we form — boundary stones, hieroglyphics, stories, and the like — has symbolic value, but this cannot be understood from the formative aspect. It anticipates the lingual aspect.

### 3.9 The Lingual Aspect

1. We experience the lingual aspect intuitively in **expressing, recording and interpreting**. This can be by speech, writing, pictures, gestures etc. and even such things as boundary stones.

Words that express something meaningful from the perspective of the lingual aspect include: 'speak', 'hear', 'write', 'read', 'gesture', 'signal', 'mark', 'record', 'edit', 'quote'; 'understandable', 'expressive'; 'sign', 'symbol', 'phoneme', 'word', 'sentence', 'paragraph'; 'vocabulary', 'language'; 'noun', 'verb', 'adjective'; 'text', 'diagram'; 'media'; 'data', 'information', 'meaning' (as that which words carry) and so on. Whereas in other aspects phenomena are listed (signified by words without quotes), here words are listed (signified by quote marks) in order to highlight the difference between the use of words and what those words signify. What each word above signifies is meaningful in the lingual aspect.

2. One good possibility that the lingual aspect introduces into temporal reality is **externalisation of our intended meaning**. Thoughts and concept structures are private but lingual functioning enables them to be expressed publicly so they can be received by others (communication). They cease to be when we forget or die but lingual functioning with a persistent medium makes them available at a different time, to others (writing) or to ourselves (note-taking).

Negative in the lingual aspect is anything that prevents adequate expression and understanding of what was meant; this includes unintentional problems like inability to express oneself on the one hand, and lying, obfuscation and equivocation on the other.

3. Dooyeweerd's discussion of the kernel of the lingual aspect is rather brief, found mainly on pages 221-227 of [1955, II] but some may be found on pages 284-5, with a link to the aesthetic aspect on page 137. Elsewhere he identified the kernel of the lingual aspect as '*symbolic signification*', which, though precise, is clumsy and usually has to be explained in terms like those used above.

'Symbolic signification' has the advantage of referring to recipient (reader, hearer) as much as originator (writer, speaker), privileging neither in the way some paradigms of linguistics do. Dooyeweerd's view echoes the paradigm shift in linguistics stimulated by De Saussure, from assuming language links names to 'real-world' objects, to seeing it as linking 'signifier' (mental image of the sound of words) to 'signified' (meaningful concept) and that these two cannot be separated. Noting that De Saussure psychologises too much, Dooyeweerd went further, binding together sign, what it signifies, the human beings who function lingually, and inter-individual understanding by which the signification of the sign is agreed by originator and recipient [p.225]. Much of the linguistic turn in philosophy (Wittgenstein, Gadamer, Habermas and Derrida) is already prefigured in Dooyeweerd's understanding of the lingual aspect, but Dooyeweerd might have criticised it for a tendency to reduce other aspects to the lingual, whether in Habermas' *Theory of Communicative Action* [1986] or in Gadamer and Derrida who treat the whole of life as 'text'. They follow Husserl's mistake of confusing signified intentional meaning with aspectual meaning [Dooyeweerd 1955,II,p.225 footnote; Basden 2008a,p.52-53].

Nevertheless, signified meaning is not disconnected from aspectual meaning. Suppose I sharply reply "No!" when asked to do the washing up after tea; that one word carries all the frustrations of my heavy working day, as well as many previous frustrations. The word expresses the originator's whole **web of meaning**. Good writing succeeds in activating the reader's wider web of meaning, often by aesthetic allusion. Though Dooyeweerd did not explore webs of meaning, it is implied by Dooyeweerd's view of meaning as having the character of "referring beyond" [Dooyeweerd, 1955,I:4], beyond itself to all else in temporal reality, to spheres of meaning, and then ultimately to its Divine Origin. The success of the Internet World Wide Web testifies this web of meaning.

4. The lingual aspect depends foundationally on the formative insofar as it involves structure — the syntax of language use. It depends on the analytical aspect insofar as each word or token is a distinct linguistic unit — the lexicality of language use. But it cannot be reduced to those because the important issue from a lingual perspective is what these tokens and structures mean (refer to). This is why linguistics, after focusing for a time on syntax, shifted its gaze to semantics and then pragmatics.

Lingual functioning is pre-social, referring to what individuals do. It might involve making marks for our own use (notes to self, diaries, etc.) — which is why abbrev'n (*sic*) is useful in shorthand — but mostly it is employed in service of social functioning, as communication. Communication cannot occur unless originator and recipient of the symbols agree over what they signify, including over connotation, idiom and humour. Agreement is a social, not lingual, issue. The lingual aspect thus very strongly anticipates the social aspect.

### 3.10 The Social Aspect

1. Consider, dear reader, yourself and an adversary (in court, battle or debate). Now contrast this with working with others in a team, in friendship and agreement. The former is only

inter-individual action, while the latter is true social action. We experience the social aspect intuitively as **we, us and them; associating, agreeing and appointing**. When we function socially we submerge (though not obliterate) our individuality into the social group, and allow it to impose structures and constraints on us. Associating implies treating others as like myself. Agreeing implies shared action or belief. When an 'us' becomes an institution, individuals are appointed to (or informally assume) roles. As you read this, you assume the role of reader in relation to me as author, a relationship that is not just lingual (originator and recipient of information) but social too, governed by the norm of mutual respect.

Doubtless you can think of many things that gain their meaning from the social aspect, such as

relationship, friend, enemy;

member, group, organisation, team, club, community, network;

authority, leader, subordinate, follower, status, hierarchy;

tact, manners, convention, decorum;

privilege (not rights, which are juridical), inclusion, exclusion; culture (in the English sense);

activities like greeting, meeting, organising (somewhat formative), respecting (also juridical), minding one's manners (somewhat aesthetic too);

properties arising from the above, like together, authoritative, friendly, polite;

expectations of others;

and so on.

2. The good possibility that the social aspect introduces into temporal reality is **company** [Stafleu 2005], that is togetherness, respect and courtesy. This amplifies the functioning of individuals, so that the effect the group, institution or organisation has is greater than if its members were acting merely as a set of interacting individuals. What this amplified effect is depends on the aspects that 'lead' the social functioning. For example businesses amplify economic effect, publishers amplify lingual effect, and governments and courts amplify juridical effects. The negative in the social aspect itself is that which disrupts or destroys the effect, such as aloofness, disrespect and rudeness.

3. Dooyeweerd's discussion to the kernel of the social aspect is meagre. He used the term "intercourse" [1955,II:141 footnote] to designate its kernel, coupling this with norms of "courtesy, good manners, tact, socialbleness, fashion, and so on". Later, on pages 227-228 Dooyeweerd gives further examples of what he considered social: "making a bow, giving a handshake, lifting one's hat, letting a superior precede".

How (European) times change! This shows the important part the formative (historical) aspect plays and Dooyeweerd is at pains to argue why, though this is so, the social aspect cannot be reduced to the historical. However, lifting one's hat, etc. does not form an adequate foundation for much else that he considers social, including his lengthy discussion of social categories [1955,II:565-624], and his theory of social institutions [Dooyeweerd, 1986]. This is why this aspect had to be reinterpreted above.

4. The social aspect depends strongly on the lingual in a foundational direction, in that most social activity cannot occur without it. The strength of the link between lingual and social tempts theoreticians like Habermas to reduce one to the other. The social aspect cannot be reduced to

the lingual because the lingual does not care whether information flow brings togetherness or conflict.

There is a tendency among social scientists to assume that all post-social functioning can be treated as mere sub-fields of sociology [Dooyeweerd 1955,III,p.157ff]. While post-social functioning depends foundationally on the social, it cannot be reduced to it; for example, the difference between club, business and church cannot be explained from the social aspect, but requires later aspects.

Togetherness has anticipatory echoes of the aesthetic aspect, respect, of the juridical, and courtesy, of the ethical. Exchange (e.g. silver for bread or labour) is social but more than social, incorporating a sense of value. While the process of *agreeing* value is social, the very notion of value itself has no meaning within the social. Rather, exchange and value anticipate the economic aspect.

### 3.11 The Economic Aspect

1. We experience the economic aspect intuitively as **managing limited resources frugally**. 'Eco', meaning 'household' (Greek), implies sustainable viability within limits. Resources can be of any type (here, words). Limits imply value. Outwith the household, value is usually symbolised quantitatively by currency.

Also meaningful within the economic aspect are: goods, customers, orders, etc.; business, bank, etc.; budgets, deadlines, etc.; markets, commons, the economy, money; activities like administering, storing, distributing, conserving, recycling; properties like sustainable, valuable, rare, careful, sparing; and their opposites.

2. The good possibility the economic aspect introduces to temporal reality is **sustainable viability / prosperity**. For economic functioning see above and below.

3. To Dooyeweerd [1955,II:66], economic functioning is "the sparing or frugal mode of administering scarce goods, implying an alternative choice of their destination with regard to the satisfaction of different human needs". His discussion occurs on pages 66-7, 122-7, 344-5, 360-2 of [1955,II], most devoted to economy of thought, logic, language, aesthetics and law rather than 'the economy'.

Note: *satisfaction*, not maximisation (of profits, income, owner value, GDP); cf. Simon [1956]. Note: frugality, not consumption, competition, growth. Frugality, whether during scarcity or exhibited in self-control during plenty, is normative because it not only sustains future prosperity but also stimulates originality, responsibility and generosity (the next three aspects). Modern economics is distorted by a mechanistic view of the world [Dooyeweerd, 1955,II,p.344].

4. Economic depends on social in that (a) needs-satisfaction is not primarily for individuals but for "us and them", including future needs; (b) economic functioning requires working together. Economic depends on formative (planning) and lingual (tokens of value). But it cannot be reduced to these because notions of value and resource have no meaning within them.

Growth (economic) is a retrocipatory analogy to the biotic aspect. That prosperity need not involve growth is discussed in Jackson [2009]: ignoring the environmental 'limits to growth' undermines the foundations of future prosperity.

Successful economic functioning presupposes that (a) we balance different needs, (b) exchange is just, (c) generosity stimulates, (d) brokers operate in 'good faith' — anticipating the next four aspects.

### 3.12 The Aesthetic Aspect

Primarily in **harmonising, enjoying, playing, beautifying**, do we experience life in its aesthetic aspect. The orchestra of daily life, a multitude of instruments, generates something harmonious, interesting and enjoyable — or not as the case may be.

The aesthetic aspect goes beyond the arts. “The beauty of nature,” Dooyeweerd wrote [1955,II:139], “is signified to those who are susceptible to aesthetic harmony, in the colours, the effect of light, the sounds, the spatial relations of nature etc.” Even the way we lay the table for a meal is often an aesthetic act, preceding the more obviously aesthetic activity of enjoying food. Aesthetic is decoration. Aesthetic is leisure. Aesthetic is sport — when undertaken for enjoyment, not competition or finance. Aesthetic is humour. Aesthetic is finding life interesting. Aesthetic is scientific discovery. Aesthetic is even computer programming, if that father of the field, Donald Knuth [1984], is to be believed!

Herman is Doorman to the House of Aspects. He knows all the residents of various rooms of the house. In a room called Aesthetic reside Harmony, Art, Style and Beauty, and Herman the Doorman tells us about them of pages 66-7, 128, 139, 345-8 in Dooyeweerd [1955,II]. In particular, he knows they are close friends of Truth [p.347]. Harmony is always urging us to see the whole.

But Fun, Interest, Leisure, Rest and Humour were not recognised by Herman the Doorman (who was something of a Calvinist) and were left outside the house as orphans. Then Seerveld [2001] and Stafleu [2003], friends of Herman, taking pity on them, invited them inside to share the Aesthetic room. Fun, Interest, Leisure, Rest and Humour got on very well with Harmony, Art, Style and Beauty, and soon all were bringing enjoyment to everyone, helped by Connotation from Social room. To everyone, not just the rich, refined, clever or educated. Seerveld knows the orphans are friends of Allusivity — one piece of meaning alluding to another in a way that is not forced upon us nor immediately obvious, such as in metaphor, in analogy, and especially when we suddenly see the funny side of life and burst out laughing — and those around us wonder what is going on!

One day, the residents of the Formative room boasted “We are important, because without us, nothing would be achieved.” The residents of the Economic room boasted “We are important because without us, there would be no value.” The residents of Juridical room boasted “We are necessary because we tell you what is right.” But the residents of Aesthetics room admitted “Perhaps we are not really necessary. We know life would continue without us. But **we do bring delight** to life. Is that not good?” At this, a resident of Faith room nodded sagely, “Yes. Did not God rest after working, and did he not order his people use their tithe to have a party?”

Sadly, after a time, the Aesthetic residents convinced many, especially the educated well-resourced, to value delight above all else. Many aspired to be ‘artists’ and assumed the rest of the household should serve their every whim. Snobbery entered and begat Division. Many in the household suffered. When Rome went on fire, Beauty just played his fiddle and blamed it on ‘the Christians’. Aristocrat, who inhabited Moscow demanded ever more elaborate parties, while her coachman, ordered to await her return outside, froze to death. Residents of Faith room were concerned but their action was “choked by life’s ... pleasures” [The Bible 1978, Luke 8:14]. Then Marx, visiting Juridical room, became appalled at this injustice, and urged the workers in Economic room to wage war on the inhabitants of Aesthetic room and then take over the whole house. No more delight, even in moderation. Instead, Tyranny entered.

Meanwhile, Love and Generosity from Ethics room and Religion from Faith room, went through the House, encouraging a different attitude, which enabled us to find some delight even in the midst of distress. Long later, Marx became silent. Seeing this, Money emerged from Economic room and, calling upon Media and Marketing in Lingual room, convinced many that delight is to be sought in convenience and an accumulation of possessions. To get them, they

purloined and polluted. Those who had listened to Money found the promised 'delight' empty and fake.

Then a whisper went round, from Juridical, Ethical and Faith rooms: "Only in justice must delight be sown; only by love should delight be watered; only in faith can true delight blossom." Let us now explore these last three rooms in the House of Aspects.

### 3.13 The Juridical Aspect

1. We experience the juridical aspect as **appropriateness and due** (or justice, but 'justice' has some restrictive connotations). We can experience this personally, as intuition of what is appropriate in a situation, as debt when we know we should return due to another, as the actions of rewarding or punishing, and as (un)fairness as the result thereof. However, justice is not justice unless it applies to all — not only to people with whom we interact, but also to people further away, the dead, past generations, future generations; to groups, roles, cultures; to readers, authors and ideas; to animals, habitats: to all.

Many other things, activities and properties gain their meaningfulness from the juridical aspect, such as rights, responsibilities, rules, duty, jurisdiction, rulers, realms, subjects; owing, judging, apportioning, emancipating; just, fair, deserving, proportionate; 'ought', and so on.

2. Juridical functioning is **responsibility**. It recognises that what is due or appropriate is different for each type of thing, which is why Dooyeweerd placed the juridical after the aesthetic aspect (see below). The good possibility introduced by the juridical aspect is **due for all**, far beyond me and mine, beyond "we, us and them" within our ken, to the whole. Partiality, injustice and inappropriateness are the evil associated with this aspect. Thus societal infrastructures of **policy, law and enforcement** have emerged, constructed by agreement (social aspect). Participative democracy is useful for inscribing into these structures a more diverse awareness than the policy-makers themselves might possess.

3. Dooyeweerd's own extensive discussion of this aspect is to be found on pages 29, 550, 553 in volume I, 67-70, 119-138, 181-185, and many other pages from 290 to 411 in volume II, and many parts of volume III about the state. The bulk of Dooyeweerd's discussion is at the societal level, especially in countering Scholastic and Humanistic philosophies of justice. He characterized the kernel of the juridical aspect as *retribution*, but that word is bedevilled with misleading connotations of harshness and rigidity, which need to be excised before it is useful, so the words 'rewarding' and 'punishing' were used above. Dooyeweerd argued [p.128-34] that these connotations come from the pagan idea of revenge, the old-Indian notion of *karma* and the old-Chinese notion of *tao*, and that the richer meaning of retribution comes out when it is connected with the Biblical notion of love.

4. The juridical notion of due for all is not found directly in any earlier aspect, though anticipatory echoes may be detected there. However, juridical functioning depends on the earlier aspects, for example the aesthetic aspect insofar as there must be a "well-balanced harmony of a multiplicity of interests" [Dooyeweerd, 1955,II:135], and the use of precedent in legal judgments must harmonise with all previous judgments.

However, there are some things in good juridical functioning that cannot be explained from within its own sphere, but anticipate the ethical, such as the intuition that retribution guided by love is superior to revenge.

### 3.14 The Ethical Aspect

1. We experience the ethical aspect intuitively as **attitude** and enact it in our lives together intuitively as **self-giving love**, which has an element of **vulnerability and sacrifice**. In ethical

functioning we go beyond what is due, giving more than necessary, even at expense to ourselves. Ethical functioning is not just overt acts of self-giving, so much as inner attitude, which is often hidden. So might it be better named the *attitudinal aspect*?

Meaningful in the ethical aspect are properties like generous, hospitable, good (as in “She is a really good person”), voluntary; activities like forgiving, sacrificing, renouncing; things like gift, love (in the sense of Greek *agapé* rather than *philio* or *eros*), and so on.

2. Two good possibilities seem to be introduced to temporal reality by the ethical aspect: to permeate reality with **extra goodness**, beyond the imperative of due, and to permeate society with a **generous attitude**. Self-giving can change attitudes in others, communities or society, which benefits all, including the giver. Notice the paradox in the ethical aspect: if we give with even the slightest hope that we ourselves will gain so (as in much social ‘generosity’ or hospitality) then it is no longer true self-giving.

In fact, it has turned into its opposite, self-interest. The negative of self-giving love is not hatred so much as selfishness, self-protection, advantage-taking, competitiveness, uncaringness, and so on, and these are harmful. C.S. Lewis [1969/1942:92] expressed this well via the senior devil, Screwtape,

The whole philosophy of Hell [the place of evil] rests on recognition of the axiom that one thing is not another thing, and, specially, that one self is not another self. My good is my good and your good is yours. What one gains another loses. Even an inanimate object is what it is by excluding all other objects from the space it occupies; if it expands, it does so by thrusting other objects aside or by absorbing them. A self does the same. With beasts the absorption takes the form of eating; for us, it means the sucking of will and freedom out of a weaker self into a stronger. ‘To be’ *means* ‘to be in competition’.

3. Dooyeweerd’s discussion of the ethical aspect, which he also called the ‘moral aspect’, is to be found mainly in [1955,II:141-60]. Much of this is devoted to arguing for a separate aspect. Only on page 151 do we find a clear statement of the kernel of ethics: love. Unfortunately, Dooyeweerd does not tell us clearly what he meant by ethical love, except to say it differs from *eros* on one hand and the “central religious command of love” (“You shall love both God and your neighbour”) on the other, which he claimed is multi-aspectual. So the understanding of the ethical aspect above comes from reading ‘between the lines’ of Dooyeweerd, especially where he speaks of ‘disposition’ (attitude), from other Dooyeweerdian scholars, from pre-theoretical reflection on experience, and from the idea of God as *agapé* in Christian Scripture. Stafleu [2007] differentiates the ethical aspect from philosophical ethics, which is multi-aspectual, and suggests ‘ethical aspect’ is a misnomer. Basden [2008a] differentiates between multi-aspectual *shalom* (every aspectual good together) and the ethical aspect.

Dooyeweerd discussed at length why views of ethics by thinkers like Aristotle, Kant, Buber, Aalders and Brunner are deficient. Most of them, he argued, are controlled by dialectical presuppositions that make it difficult to keep morality separate from legality and faith. For example, Dooyeweerd [1955,II:143] detected the influence of the dialectical Nature-Freedom presupposition in Buber’s opposition between ‘experience of the world’, as an I-It relationship (impersonal objects), and the I-Thou relationship, which, he argued, is religious rather than ethical [p.27-28].

I wonder, however, whether Dooyeweerd overstated this. Buber’s I-Thou relationship is characterized by a giving of the self to the other, and he wanted to introduce a distinction that had previously been overlooked in Heidegger’s existential I-in-the-world relationship, namely between self-giving and self-formation. New distinctions are often introduced as oppositions and Buber employed the concepts and oppositions of the Nature-Freedom presupposition to explain

the distinction. However, Dooyeweerd himself cannot be too harshly criticised, because he seems to have done likewise, introducing a new distinction: between how the presupposition he adopted (that of Creation-Fall-Redemption) would approach ethics and how dialectical presuppositions do. In this paragraph I have tried to exemplify the ethical norm of generosity as it can apply to intellectual argument, seeing the deliberations of thinkers who were influenced by dialectical presuppositions as insights that are distorted rather than views to be opposed, and then affirming Dooyeweerd's criticism. Dooyeweerd can in fact enrich extant ideas ('extra good') [Basden, 2008b].

4. Like juridical functioning, ethical functioning is orientated away from ourselves towards others but, whereas juridical functioning has an element of necessity about it, because it is driven by the imperative of due for all, ethical functioning has an element of non-necessity, rather like the aesthetic aspect. Unlike aesthetic functioning, in which we ourselves benefit from what is non-necessary, in ethical functioning the other, the all, benefits from it.

Dooyeweerd [1955,II:152] offers a list of how earlier aspects anticipate the ethical, such as love for language. Perhaps a better lingual example is that writing is, in itself, free to benefit all — until juridically constrained in copyright, hence the Copyleft and Open Source movements.

The ethical aspect has at least one important anticipation: What motivates self-giving? Never pushing itself, self-giving cannot be its own motivation. The answer to this can only be found in the faith aspect.

### 3.15 The Faith/Pistic Aspect

1. We experience the faith or pistic aspect intuitively in **vision, commitment, certainty and belief**. Vision is our deeply-assumed view of what is ultimately meaningful and of who we are. Whether explicit or unspoken, vision motivates commitment. Pistic is that "immediate certainty which manifests itself ... in practical life" [Dooyeweerd, 1955,II:299] by which we live moment by moment (such as trusting the chair we sit on). It is also the firm ideological or religious belief for which people give their lives (pistic commitment motivates ethical self-giving). Assent to a creed is usually social, and only pistic if it expresses one's deepest faith-commitment. Pistic has to do with meaningfulness of our lives, with hope and morale, and with things of the Ultimate and Absolute.

Pistic is found at personal, group and societal levels as, for example, personal beliefs and the courage of those who stand alone, group beliefs (including *Weltanschauungen*) and the mindset that pervades society and the presuppositions that determine the direction in which theoretical thinking develops. Activities like dignifying, aspiring, trusting, worshipping, praying, religious ritual and celebration are primarily pistic. Faith's view of time is eschatological.

2. This aspect heralds several good possibilities for temporal reality, **courage, loyalty, hope, meaningfulness and openness to the Divine** at all levels. It is because of this aspect that we intuitively expect meaningfulness in all our experience, and seek it, either in the True Divine or in a substitute. At the societal level, it enables **changing the direction of society** towards what Lonergan [1992] calls longer cycles of creation and healing.

All these may be discerned in William Wilberforce. He believed "God has set before me two great objects: the suppression of the slave trade and the reformation of manners [attitudes]" [Metaxas 2007:85]. This gave him courage to propose parliamentary bills that seemed ridiculous in their time, and loyalty to his cause, and hope despite their being rejected every year until 1807. "What Wilberforce vanquished was something even worse than slavery, something that was much more fundamental ... he vanquished the very mind-set that made slavery acceptable. He

destroyed an entire way of seeing the world, one that had held sway from the beginning of history, and he replaced it with another way of seeing the world ..." [Metaxas, 2007:xv].

Faith-functioning can be negative in several ways as well as positive. In addition to absolutizing faith itself, which was an error of mediaeval Roman Catholicism, there are several corresponding negatives associated with this aspect, including cowardice, disloyalty, despair and meaninglessness. Against openness to the Divine is apostasy or idolatry ("absolutizing of what has been created" [Dooyeweerd, 1955,II:309], and stubborn resistance to good or truth. Against societal creation and healing Lonergan [1992] places longer cycles of decline due to general bias.

3. Dooyeweerd's entire *New Critique of Theoretical Thought* [1955] can be seen as an argument that faith underlies all theoretical thought. His main explicit discussion of the pistis/faith aspect itself is in [1955,II:291-334]. First he defends his ideas against Christian thinkers who had attacked them, then argues that faith must be seen, not as *doxa* (Greek: hypothetical opinion) as Greek and Humanistic thought had assumed, but as *pistis*, firm faith that is active certainty, and finally discusses how faith relates to magic, totemism and myths. The rendering above develops *pistis* in the light of today's greater trans-cultural awareness.

4. This aspect has no anticipations. Instead "this terminal aspect was destined to function as the opened window of time through which the light of God's eternity should shine into the whole temporal coherence of the world" [Dooyeweerd, 1955,II:307]. It is therefore the aspect of human functioning that welcomes Divine Revelation. Faith functioning is profound and powerful in its effects on all other functioning, bringing both the best good and the worst evil.

Full faith/pistic functioning, depends on good functioning in all aspects, for example the lingual (to exhort, praise and make credal statements) and the social (together in a cause), but especially the juridical and ethical aspects. Perhaps this is why the prophet Amos claimed that God said, [The Bible, 1978: Amos 5:22-24].

"I hate, I despise your religious feasts  
Away with the noise of your songs!  
I will not listen to the music of your harps.  
But let justice roll on like a river  
and righteousness like a never-ending stream."

and the New-Testament writer, James, wrote, [James 1:27]

"Religion that God our Father accepts as pure and faultless is this: to look after orphans and widows in their distress and to keep oneself from being polluted by the world."

#### 4. THE ASPECTS TOGETHER

It has been necessary to separate each aspect from the others in order to obtain a clear understanding of each for the purpose of this paper, but this gives a rather fragmented picture of the aspects. Dooyeweerd [1955] stressed that the aspects cannot be separated in pre-theoretical experience [I:3] nor in philosophy [II:3]. Clouser [2009] stresses it even more. To correct this, this section brings the aspects together conceptually, provides an example of multi-aspectual functioning, and discusses some problems of absolutization.

##### 4.1 The Whole Suite of Aspects

Table 1 brings them together conceptually and summarises the above discussion. Column 1 contains the aspect name and column 2 contains the intuitive expression of its kernel meaning. Column 3 summarises the good it brings. Column 4 contains Dooyeweerd's rendering of the kernel meaning.

**Table 1.** Summary of Aspects

<b>Aspect</b>	<b>Meaning</b>	<b>Good</b>	<b>Dooyeweerd's mode</b>
Quantitative	One, several many; more and less	Reliable amount	Discrete amount
Spatial	Here, there, between, around, inside and outside	Simultaneity, continuity	Continuous extension
Kinematic	Going, continuous flowing	Change	Mathematical movement; continuous flowing
Physical	Forces, energy and matter	Irreversibility, persistence and causality	Energy
Biotic / Organic	Living as organisms in an environment	Distinct entities that sustain themselves and reproduce	Life functions
Sensitive / Psychic	Feeling, sensing, responding	Interactive engagement with world	Feeling
Analytical	Conceptualising, clarifying, categorising and cogitating	Thinking independently of the world; Theoretical thinking	Distinction
Formative	Deliberate creative shaping of things	Achievement, innovation	Formative power
Lingual	Expressing, recording and interpreting	Externalisation of our intended meaning; Referring beyond to whole web of meaning	Symbolic signification
Social	We, us and them; Associating, agreeing, appointing	Company: togetherness, respect, courtesy	Intercourse
Economic	Managing limited resources frugally	Sustainable viability / prosperity	Frugality
Aesthetic	Harmonising,, enjoying, playing, beautifying	Delight that seems non- necessary	Harmony
Juridical	Appropriateness, Due	Due for all, Responsibility; Infrastructures of policy, law, enforcement	Retribution
Ethical	Attitude: self-giving love, vulnerability, sacrifice	Extra goodness; Generous attitude pervading society	Love
Pistic	Vision, commitment, certainty and belief	Courage, loyalty, hope, meaningfulness, openness to the Divine; changed direction of society	Faith

It is important that the aspects are not seen as 'higher' or 'lower' but as 'earlier' and 'later'. They are all of equal importance, but each aspect has a different role in bringing distinct types of good possibility to temporal reality. Because they are thus ordered it is not invalid to group the aspects according to the kind of functioning that occurs in them:

- Mathematical aspects: quantitative, spatial, kinematic;
- Pre-human aspects: physical, biotic, psychic;
- Aspects of human cognition: analytical, formative, lingual;
- Social aspects, enabling group functioning: social, economic, aesthetic;
- Societal aspects, which form the structures of society: juridical, ethical, pistic.

We must not think, however, that the five groups are 'super-aspects' to which those in their group may be reduced; they are merely conveniences to help us remember the aspects and only the first two groupings are found in Dooyeweerd.

#### *4.2 The Aspects Working Together: Example*

All human activities exhibit all aspects. As an example, the questions in the Introduction about writing a letter may be differentiated by reference to Dooyeweerd's aspects, as shown in Table 2. Each question can be answered by reference to functioning in that aspect, of which one example is given in column 3 (or alternative good functioning and dysfunctioning separated by '/').

Aspectual functioning is not different parts of our activity, but different ways of looking at the one activity. As we function, the aspects interact. For example, the limited time (economic aspect) might mean we do not do full justice to the topic (juridical), but the fact that the message is important (pistic) means that we probably should do so. Very seldom, though, would these functionings be governed by quantitative desire to make the number of words prime!

This example suggests conflict between aspects might be unavoidable in some cases, yet "simultaneous realization of norms" [Van der Kok 1974] is feasible in principle. However we might have to abandon conventional assumptions to find this. For example, there are usually ways to do reasonable justice to the topic in limited time, some requiring the exercise of effort and skill (formative aspect), some requiring sacrifice (ethical), such as staying up all night. If the deadline were made impossible, such as by demand of the recipient, this is unreasonable (juridical dysfunction initiated by the recipient but acquiesced to by the letter-writer).

This illustrates some ways in which the aspects are all interwoven with each other in all actual situations and activities in life. The inherent harmony and coherence of aspects deserves considerable research and discussion.

**Table 2.** Aspects working together: the example of writing a letter

<b>Aspect</b>	<b>Meaningful question</b>	<b>Concrete functioning</b>
Quantitative	How many words, paragraphs, sections are written?	Number of words is a prime number.
Spatial	How large a sheet of paper is being written on?	I leave wide margins.
Kinematic	Is the writing fast or slow?	I'm writing fast.
Physical	Might the writing (ink) fade over time?	My ordinary ink does.
Biotic	Do I write badly when ill?	Muscles in my hand are not functioning well.
Sensitive	How do I feel while writing? Is light too dim to see what I am writing?	I'm cold. It's getting dark, so I only dimly see the paper.
Analytical	Is it clear what I want to write about?	Main topic is clear, but not subtopics.
Formative	Do I have a plan and structure?	I am writing as it comes.
Lingual	How can I best express what I want to say?	I use Thesaurus to find good words.
Social	What phrasing suits the intended reader? What connotations will the words carry?	I am writing to my boss.
Economic	Do I have to keep to a word limit?	I have limited time; much catch the mail tomorrow morning.
Aesthetic	Is my writing interesting or boring? Does what I say all hang together?	The message must be coherent, but it's not meant to be fun.
Juridical	Am I doing justice to the topic? To the readers?	Yes, trying to. / No, probably not.
Ethical	Do I write with goodwill and generosity?	I will stay up all night if need be. / I don't care.
Pistic	Do I believe in what I am writing? Is it important?	Yes, important.

#### 4.3 Absolutization and Reduction

Absolutization (undue elevation) of any aspect brings harm because it breaks inter-aspect coherence. Absolutization of aspects in theoretical thought leads to other aspects being either ignored (example: positivism) or explained away in terms of the favoured one (example: evolutionism). Absolutization of aspects in society's mindset (example: consumerism) destroys other aspects of society, such as justice or generosity. Table 3 shows (non-exhaustive) examples for most aspects, of theoretical or mindset absolutization and harm that might result.

**Table 3.** Absolutization of Aspects and Harm that Results

<b>Aspect:</b>	<b>Example 'Ism'</b>	<b>Example of Harm</b>
Quantitative		Over-emphasis on figures, league-tables
Spatial		(Stasis)
Kinematic		(Slavery to "must keep moving")
Physical	Materialism	Ignoring mental and social realities.
Biotic / organic	Evolutionism	Life becomes competitive.
Sensitive / psychic	Psychologism	Slavery to feelings.
Analytical aspect	Rationalism	Oversimplified arguments expel wisdom.
Formative aspect	Functionalism, Utilitarianism	Drivenness, over-work.
Lingual aspect		Swamped by documentation, email.
Social aspect	Socialism	Political correctness dominates.
Economic aspect	Capitalism	Everything reduced to money; unconcern for the poor.
Aesthetic aspect	Aestheticism	Snobbery; The enjoyments of the rich precede the needs of the poor.
Juridical aspect		Legalistic, harsh atmosphere in society.
Ethical aspect		Over-tolerance.
Faith / Pistic aspect	Scholasticism	Religion dominates all.

## 5. DISCUSSION

This paper has presented each of Dooyeweerd's aspects for two purposes, one being to provide an understanding of them suited to multi-aspectual practice, the other being to provide a reference point for further discussion of the aspects and their use. Two further articles are planned, one to discuss use of aspects in analysis, and one to discuss the validity of Dooyeweerd's aspects [Basden, forthcoming].

Dooyeweerd did not discuss the kernel meaning and good of each aspect systematically as has been done here. Attempts have been made to systematically discuss individual aspects [Seerveld, 2001; Stafleu, 2003, 2004, 2005, 2007] but this article discusses them all together, each in the context of the others, so that something of their coherence may be grasped. It has tried to provide a substantial intuitive understanding of aspects as spheres of meaning and law, and to present a clear understanding of how each aspect relates to others. Pointers for further study have been given.

This discussion is limited in several ways, however. Aspects have been portrayed primarily as spheres of meaning and law but much else is omitted, such as modes of being, types of rationality, ways of knowing Basden [2008a] and the central focus of sciences and disciplines [Basden, 2010]. The justification for the rendering of each aspect presented above is at best sketchy and requires further discussion. Indeed, to what extent is it valid to use and rely on (this interpretation of) Dooyeweerd's aspects? Dooyeweerd's contention [1955,II,p.556, quoted earlier] that no suite of aspects can lay claim to absolute truth, invites critique at several levels.

First, does this, or any other, interpretation of Dooyeweerd's fifteen aspects do justice to what Dooyeweerd intended? As explained earlier, because much has happened since Dooyeweerd wrote, it might be appropriate to reinterpret some aspects. So, while trying to be true to what Dooyeweerd intended in his delineation of these fifteen aspects, this interpretation takes into account the implications of new ideas in philosophy and changes in the world. It has also been oriented more towards everyday experience than Dooyeweerd perhaps achieved, by conveying the meaning and good of each aspect in ordinary language that is intuitively understandable, and influenced by the author's practical experience of aspects in analysis, teaching and research.

Second, should the suite of fifteen aspects be modified? Dooyeweerd's understanding of the social aspect has been critically discussed by Stafleu [2005] and Basden [2004]. The economic aspect has been employed, though not critiqued, by de la Sienna [2001]. The aesthetic aspect has been subjected to substantial critique, some of which is included above, by Zuidervaart [1996], Seerveld [2001] and Stafleu [2003]. The juridical aspect has been critiqued by Stafleu [2004]. Dooyeweerd's ethical aspect is differentiated from philosophical ethics by Stafleu [2007]. Proposals have been made to reorder aspects [Seerveld, 2001; Stafleu, 2007], and to insert additional aspects [De Raadt, 1997; Stafleu, 2004]. Basden [forthcoming] will discuss these. Even with these criticisms, however, Dooyeweerd's suite remains largely intact, and still very serviceable for multi-aspectual practice, as the growing applications of them in information systems and sustainability evinces [for example, Eriksson, 2001; Bergvall-Kåreborn, 2001; Winfield, Basden & Cresswell, 1996; Lombardi & Brandon 2005; Basden & Wood-Harper, 2006].

Third, how do suites based on Dooyeweerd compare with those from elsewhere? Other suites of aspects, by Maslow [1943], Bunge [1979], Hartmann [1952], Habermas [1986], etc. provide no serious critique of Dooyeweerd's suite because most may be seen as subsets of Dooyeweerd's. This will be discussed in Basden [forthcoming].

## 6. CONCLUSION

"It is a matter of life and death for this young philosophy," wrote Dooyeweerd [1955,I:vii], "that Christian scholars in all fields of science seek to put it to work in their own specialty." And, I might add, not just Christians [Basden, 2008b]. Though some scholars seek to understand the aspect on which their field is centred, a comprehensive, intuitive grasp of the meaning of all aspects, such as offered here, can do much more. In academic research, it can assist interdisciplinary and cross-cultural understanding and can enrich extant theories [Basden & Wood-Harper, 2003; Basden & Klein, 2008]. In professional life it can enlighten discussions, both in opening up narrowed understanding of specific aspects (for example from a focus on finance to the entire kernel of economic), and in stimulating participants to consider aspects that have been overlooked [Eriksson 2001]. In everyday life, it can give us new angles of interest in conversations, especially in counselling. Even in personal, inner life, aspects can be useful, as a platform on which to be self-critical, and help us understand *why* something is right or wrong. Use of Dooyeweerd's aspects in such ways will be discussed in a later paper.

## References

- Adam, A. (1998). *Artificial knowing: Gender and the thinking machine*. London: Routledge.
- Basden, A. (2008a) *Philosophical Frameworks for Understanding Information Systems*. IGI Global Hershey, PA, USA.
- Basden, A. (2008b) Engaging with and enriching humanist thought: the case of information systems. *Philosophia Reformata*, December 2008.
- Basden, A. (2010) On Using Spheres of Meaning to Define and Dignify the IS Discipline. *International Journal of Information Management*, **30**, 13-20.
- Basden, A. (forthcoming). On the validity of Dooyeweerd's suite of aspects.
- Basden, A. & Klein, H.K. (2008) New Research Directions for Data and Knowledge Engineering: A Philosophy of Language Approach. *Data & Knowledge Engineering*, **67**(2), p.260-285.
- Basden, A., Wood-Harper, A.T. (2006) A philosophical discussion of the Root Definition in Soft Systems Thinking: An enrichment of CATWOE. *Systems Research and Behavioral Science*, **23**, 61-87.
- Bergvall-Kåreborn, B. (2001) Enriching the Model Building Phase of Soft Systems Methodology. *Systems Research and Behavioral Science* **19**, 27-48.
- Bunge, M. (1979). *Treatise on basic philosophy, Vol. 4: Ontology 2: A world of systems*. Boston: Reidal.
- Clouser, R. (2005). *The myth of religious neutrality: An essay on the hidden role of religious belief in theories* (2<sup>nd</sup> ed.). Notre Dame, IN: University of Notre Dame Press.
- Dahlbom, B., & Mathiassen, L. (2002). *Computers in context: The philosophy and practice of systems design*. Oxford, England: Blackwell.
- De la Sierra, A.G. (2001). Reformational Economic Theory. *Philosophia Reformata*, **66**(1), 70-83.
- De Raadt, J. D. R. (1997). A sketch for humane operational research in a technological society. *Systems Practice*, 10(4), 421-441.
- Dooyeweerd, H. (1955). *A new critique of theoretical thought (Vols. I-IV)*. Jordan Station, Ontario, Canada: Paideia Press. (Original work published 1953-1958)
- Dooyeweerd, H. (1986) *A Christian Theory of Social Institutions*, tr. Verbrugge M, The Herman Dooyeweerd Foundation, La Jolla, CA, USA.
- Eriksson, D.M. (2001). Multi-modal investigation of a business process and information system redesign: a post-implementation case study. *Systems Research and Behavioral Science*. **18**(2), 181-196.
- Habermas, J. (1986) *The Theory of Communicative Action; Volume One: Reason and the Rationalization of Society*. tr. McCarthy T, Polity Press.
- Hartmann, N. (1952). *The New Ways of Ontology* Chicago University Press.
- Jackson, T. (2009). *Prosperity Without Growth: Economics for a Finite Planet*. London: Earthscan.
- Kalsbeek, L. (1975), *Contours of a Christian Philosophy*, Wedge Publishing Company, Toronto, Canada.
- Knuth, D.E. (1984). Literate Programming. *The Computer Jnl* **27**(2):97-111.
- Lewis, C.S. (1969/1942). *The Screwtape Letters: Letters from a senior to a junior devil*. London & Glasgow, UK: Collins Fontana.
- Lombardi, P.L., Brandon, P.S. (2005). *Evaluating Sustainable Development in the Built Environment*. Oxford, UK: Blackwell Science.
- Lonergan, B. (1992). *Insight: A study of human understanding*. Toronto, Ontario, Canada: University of Toronto Press.

Maslow, A. (1943). A theory of human motivation. *Psychological Review*, **50**, 370-396.

Metaxas, E. (2007). *Amazing Grace*. HarperOne.

Polanyi, M. (1967), *The Tacit Dimension*, Routledge and Kegan Paul, London U.K.

Schuurman, E. (1980), *Technology and the Future: A Philosophical Challenge*, Wedge Publishing, Toronto.

Seerveld, C. (2001). Christian aesthetic bread for the world. *Philosophia Reformata*, **66**(2), 155-177.

Simon, H.A. (1956). Rational choice and the structure of the environment. *Psychological Review*, **63**(2), 129-138.

Smith, J.K.A. (1999). Editor's Introduction: Dooyeweerd's Critique of 'Pure' Reason. pp. v-xiii in Dooyeweerd H *In the Twilight of Western Thought — Studies in the Pretended Autonomy of Philosophical Thought*. Lewiston NY USA: The Edwin Mellen Press.

Stafleu, M.D. (2003). On aesthetically qualified characters and their mutual interlacements. *Philosophia Reformata*, **68**(2), 137-147.

Stafleu, M.D. (2004). On the character of social communities, the state and the public domain. *Philosophia Reformata*, **69**(2), 125-139.

Stafleu, M.D. (2005). The relation frame of keeping company; Reply to Andrew Basden. *Philosophia Reformata*, **70**(2), 151-164.

Stafleu, M.D. (2007). Philosophical ethics and the so-called ethical aspect. *Philosophia Reformata*, **72**(1), 21-33.

Strauss, D.F.M. (2009). *Philosophy: Discipline of the Disciplines*. USA, Grand Rapids: Paideia Press.

The Bible (1978). *The Holy Bible New International Version, Containing The Old Testament and The New Testament*. London: Hodder & Stoughton.

Van der Kooy, T.P. (1974). De gereformeerde wereld en de sociologie [The Calvinist world and sociology]. *Anti-Revolutionaire Staatskunde*, **2**, 37-56.

Winfield, M.J., Basden, A., Cresswell, I. (1996) Knowledge elicitation using a multi-modal approach. *World Futures*, **47**, 93-101.