

*Routledge Advances in Research Methods*

# **FOUNDATIONS AND PRACTICE OF RESEARCH**

**ADVENTURES WITH DOOYEWEERD'S PHILOSOPHY**

Andrew Basden



# Foundations and Practice of Research

Many of the issues on which meaningful research is founded are seldom discussed; for example, the role of everyday experience, diversity and coherence of meaning in the world, the meaningfulness and wider mandate of research, the very nature and validity of theoretical thought, and the deep presuppositions of philosophy and how they undermine the success of research. Such questions are material to the philosophies that guide research thinking in all fields, and since they cannot be satisfactorily addressed in a piecemeal fashion, this book employs the radically different philosophy of Herman Dooyeweerd to consider them together. Parts I and II discuss these issues theoretically and philosophically, while Part III discusses them practically, specifically the adventures that researchers across the world have had using Dooyeweerd's philosophy. *Foundations and Practice of Research* assembles a wide range of experiences of using Dooyeweerd's philosophy in research in the fields of mathematics, the natural sciences, the social sciences, the design sciences and the humanities. Case studies demonstrate how Dooyeweerd's philosophy has been found fruitful in most stages of research, and the philosophical discussion backs this up. This book challenges researchers to join the adventures, including suggestions of potential research that could be carried out, as well as questions still left unanswered.

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# Foundations and Practice of Research

Adventures with Dooyeweerd's  
Philosophy

Andrew Basden

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To Richard Russell, who started the adventure, to Mike Winfield, who turned the adventure towards empirical research, and to Jesus Christ, who has made the adventure especially meaningful for me.



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# 9 Dooyeweerd's Suite of Aspects

Much has been said about Dooyeweerd's suite of aspects. Throughout Parts I and II, we have worked with an informal understanding of the kernel meaningfulness of each.

The purpose of this chapter is to provide an understanding of their kernels that can be used as a reference point by researchers. It is not primarily the purpose to argue philosophically for the kernel meaning of each aspect, though some indication of reasons for this interpretation are given. This entails (a) offering the opportunity to gain an intuitive grasp of the kernel meaningfulness, (b) providing a succinct characterisation that could be critiqued or referred to, and (c) providing some indications of why each aspect is understood in the way indicated, including some of Dooyeweerd's own discussions.

So each aspect's kernel meaningfulness will be discussed separately, but with reference to other aspects. Following this is a discussion of grouping of aspects and then of comparing Dooyeweerd's suite with others. Finally, an overview is given of reasons why Dooyeweerd's suite can be relied upon, but also a warning.

## 9-1. Description of Each Aspect

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The purpose of this section is to help readers develop their intuitive grasp of aspectual kernels, sufficient to be able to use and discuss them with some confidence. Each aspect has its own section, mainly drawn from Basden (2011b), which is best read almost as an essay on the aspect, despite its systematic, list-like format. The material is designed to be referred to and maintains a reasonably cross-cultural applicability, for example most of the good mentioned would be applauded as good in most cultures.

In each section, after a statement of kernel meaningfulness for the aspect, are:

- some ways this aspect is experienced in the pre-theoretical attitude, sometimes with additional notes;
- a list of the good possibility (§4-3.7) that this aspect introduces to reality but which is meaningless to earlier aspects, along with an indication of dysfunction that is meaningful in the aspect (in the first four aspects, dysfunction is meaningless);
- ways in which the aspect depends foundationally on earlier aspects (§3-2.4.4);

- some differences from earlier aspects, to clarify understanding (entries in brackets are differences from later aspects where this occasionally seems useful);
- a list of pages where Dooyeweerd discusses the aspect, which is useful for deeper analysis;
- sundry notes about and discussions of the aspect, which explain why the aspect is understood in this way;
- some analogies of this aspect in others (§4–2.4.3);
- common mistakes made, which confuse this aspect with others;
- how this aspect anticipates later aspects.

For each aspect, a diagram depicts the kernel meaningfulness of the aspect surrounded by a constellation of things, properties and/or functions meaningful in that aspect (§4–3.4, §4–3.8). Each diagram is best reflected on as a text. Items to the left take some meaningfulness from earlier aspects, and those to the right gain some meaningfulness from later aspects, with those in brackets on the boundary more meaningful in the neighbouring aspect. Since the quantitative and pistic aspects are terminal aspects, their diagrams are only half filled. Note: These constellations are only illustrative and by no means complete.

These are my own interpretations of what I think Dooyeweerd was getting at in each aspect, based on 25 years of using and reflecting on the aspects; others might disagree. The description of each aspect takes account of the principles for delineating them set out in Basden (2019) and summarised in §4–3.13.

9–1.1 *The Quantitative Aspect*

**Kernel:** Discrete quantity/amount (“numberness”). **Experienced as:** One, several and many, and comparisons of less and more.

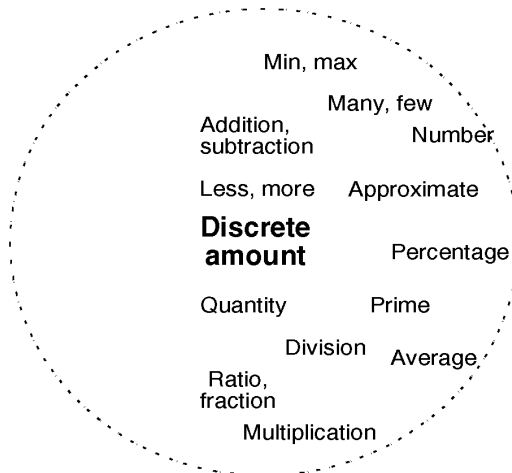


Figure 9.1 The quantitative aspect and some of its constellation

**Good:**

- Reliable amount and order: Each amount (numberness), other than infinity, always and in all situations retains the same quantitative meaning and differs from all others. 4-ness is always more than 3.9-ness and less than 4.1-ness. This is so fundamental that we usually take it for granted, yet functioning in all other aspects relies on this, so mathematics seems a foundational science.
- Ordering: The less-and-more relationship in the quantitative aspect provides us with a natural way of placing things in order: 1, 2, 3, . . .

**Foundational Dependencies:**

- None. But the possibility of quantity depends on the origin of meaning.

**Differences From Neighbours:** See Spatial.

**Notes, Discussion:** NC,II, 79–93

- Quantitative functioning feels like static property of having-an-amount.
- Number-of and ‘numberness’: 4 wheels on a car and 4 points on the compass—whereas the analytic aspect differentiates wheels from compass-points, and might see two 4s here, the quantitative aspect does not: there is always only one 4. It is not number-of-things that exists quantitatively, but what we might call ‘numberness’, quantity-as-such: 4-ness, 1-ness, 146-ness, 3/4-ness, 3.9-ness and so on.
- Dooyeweerd places continual emphasis on “unity and multiplicity”, “the one and the many”, stressing that quantity is *discrete*, not continuous. He sees ratios as relationships, whereas I see them also as amounts in their own right.

**Analogies of This Aspect:**

- “More beautiful, faithful, costly, understandable . . . ” and correspondingly, “Less . . . ”, and the suffixes “-er” and “-est” denote quantitative analogies in almost all other aspects.
- Equality is a quantitative analogy; beware!

**Mistakes:**

- The kernel is amount or quantity, not number, since number implies lingual symbols.
- Counting, though led by the quantitative aspect, also involves analytical functioning (distinguishing things to count) and lingual symbolisation.

**Anticipations:**

- Irrational numbers anticipate the spatial in that they become important only when spatial meaning is imported. Example: The square root of two has little meaning to purely quantitative

thinking and cannot be discovered by purely quantitative processes of converging approximations.

- Differential functions anticipate the kinematic aspect (NC,II, 94).
- Zero and negative numbers might anticipate the economic aspect.

### 9–1.2 *The Spatial Aspect*

**Kernel:** Continuous extension (extendedness). **Experienced as:** Here, there, between, around, inside and outside, shape, proximity.

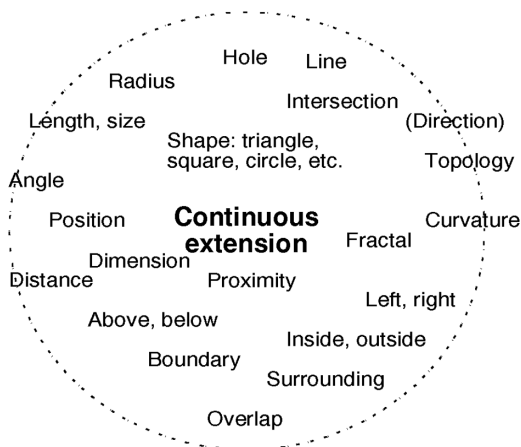


Figure 9.2 The spatial aspect and some of its constellation

#### **Good:**

- Simultaneity. Shapes, dimensions occur together.
- Continuity. Space, in its original meaningfulness, is smooth. This is why purely quantitative methods can never find irrational numbers.

#### **Foundational Dependencies:**

- Quantitative (reliable amount): Number of dimensions of a spatial world.

#### **Differences From Neighbours:**

- Quantitative is discrete; spatial is continuous.
- Quantitative gives sequential order; spatial allows simultaneity.
- (Spatial is static, kinematic is dynamic.)

**Notes, Discussion:** NC,II, 63–5, 85–96, 98–106

- Spatial functioning feels like static property.
- What is space? Kant argued space is an inherent subjective category (maybe because of the myriad of analogies?). Dooyeweerd argues there is real space and that space as subjective is psychic or analytic analogy of space.

**Analogies of This Aspect:**

- “Around 40 at the meeting” is a spatial analogy in the quantitative, meaning “approximately”.
- Size, etc., of organisations: spatial analogy in the social. Length of paragraph: spatial in lingual.
- Spaces for thinking or discourse: spatial analogy in analytic, lingual.
- Boundaries of knowledge, jurisdiction, etc., are spatial analogies, as are inside and outside.
- Left- and right-wing politics seems like spatial (and organic) analogy in the juridical, but we need social convention to understand their implications.

**Mistakes:**

- “Extension” is extendedness, not processes of extension.
- Discrete points have no spatial existence (NC,II, 102). Either they are analytic things, when their distinction is emphasised, or quantitative, in the form (x,y).
- Space is not “filled up” by physical things (NC,II, 95).
- The relativistic stretching and curvature of ‘space’ discovered by Einstein refers not to space as such, but to a physical analogy of space (NC,II, 101).

**Antecipations:**

- Wiggly line might anticipate kinematic path or route.
- A sequence of snapshots, each individually a unique spatial universe, anticipates the kinematic; this is employed in cinematography and animation.

9–1.3 *The Kinematic Aspect*

**Kernel:** Movement. **Experienced as:** Going and flowing; forward and backward.

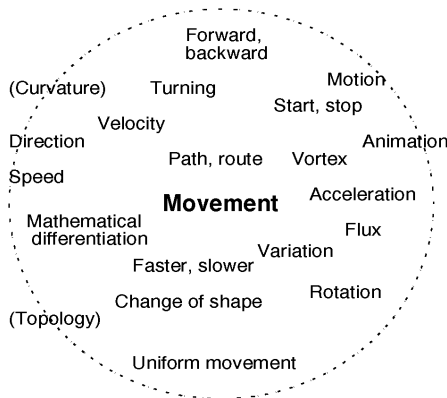


Figure 9.3 The kinematic aspect and some of its constellation

**Good:**

- The kinematic is the first aspect to introduce the possibility of *dynamic variation* or *change* to temporal reality (but see Discussion).

**Foundational Dependencies:**

- Depends on spatial continuity.

**Differences From Neighbours:**

- Kinematic is dynamic; spatial is static.
- 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.
- (Constant, uniform movement is meaningful to kinematic, but meaningless to physical.)
- (Kinematic speeds can exceed that of light, physical cannot.)

**Notes, Discussion:** NC,II, 93–106

- The kinematic was the last aspect that Dooyeweerd delineated; initially he conflated the kinematic with the physical (NC,II, 98–99), but then antinomies convinced him it was different.
- Strauss (2009) takes the kernel meaningfulness of the kinematic aspect to be “constancy”, and he moves change to the physical. However, this goes against intuition, which sees the kinematic as movement. From extensive references to how this is echoed in other aspects, it is clear that Dooyeweerd means *change or variability*.
- Acceleration, defined as force/mass and linked with a cause, is physical (“the physical concept of acceleration” (NC,II, 99)), but, defined as  $dV / dt$  (change in velocity, without regard to any cause), acceleration is kinematic. Uniform movement is a special case when  $dV / dt = 0$ , meaningful in kinematic but not physical (p. 99).

**Analogies of This Aspect:**

- The mathematical notion of *variable* (an amount that could ‘change’) anticipates the kinematic aspect analogically.
- (Inverse) Speed is a kinematic concept but it retrocipates the quantitative aspect, by an analogy that enables us to say “less” or “more”. Velocity retrocipates spatial and quantitative.
- Movement of thought and social movements, involving commitment and belief, are kinematic analogies in the analytic and social-pistic.

**Mistakes:**

- Kinematic movement is not relative to a static background (example: bird flying across the sky); static background is neither necessary nor even meaningful. Assuming it reduces kinematic to spatial

(NC,II, 98). So does using Cartesian coordinates to think about movement; think about it via intrinsic curves instead.

- Zeno's paradox (p. 103) reduces kinematic to spatial.
- Originally Dooyeweerd used the term "motion", but this is not ideal (Kalsbeek 1975, 101) because, in conceiving of motion, we tend to think physically.

**Anticipations:**

- Movement is very important in physics, as dynamics, especially in Relativity Theory.

**9-1.4 The Physical Aspect**

**Kernel:** Energy. **Experienced as:** Matter, forces, energy, etc. (at microscopic, human and macroscopic spans)

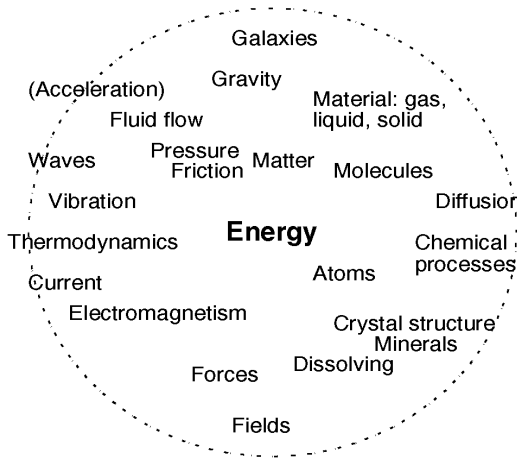


Figure 9.4 The physical aspect and some of its constellation

**Good:**

- Causality
- Resistance to causal change; momentum.
- Irreversibility
- Persistence—that physical change remains in place

**Foundational Dependencies:**

- Physical functioning requires movement and change (kinematic), space and reliable quantity.



**Differences From Neighbours:**

- Immaterial v. material.
- Physical has persistence and uni-directional time; kinematic has neither.
- From kinematic: Uniform movement is meaningless.
- From biotic: Boundary is meaningless (see Mistakes).
- Discrete space: This is a theoretical construct. If valid, it will occur because of physical discreteness of energy (quanta). Spatiality is still continuous.

**Notes, Discussion:** NC,II, 95, 99, 100, 101—patchy

- At the human and macroscopic spans, physical causality is deterministic (predictable from initial conditions); at the microscopic span it might not be.
- It is with the physical aspect that we first experience time as past-present-future.
- Whether chemistry should be incorporated in the physical aspect, as in Dooyeweerd, or separated, as in Bunge (1979), is a matter that still deserves discussion.

**Analogies of This Aspect:**

- Causality: repercussions. Hardness (of problems, personalities, etc.) is a physical analogy of resistance to being changed.

**Mistakes:**

- In the physical aspect there seems to be no such thing as an entity that is distinct from its environment. Rivers or hills merge into each other; electrons are smears. Physical laws do not stop at any boundary. Distinction is an analytic functioning for our convenience, rather than ontically physical.

**Anticipations:**

- Carbon chemistry, with its long-chain atoms, strongly anticipates life; without organic meaningfulness, it would remain a mere speculative curiosity.

**9–1.5 *The Organic/Biotic Aspect***

**Kernel:** “Vital unity” and “organizing” (NC,II, 110); often seen as “life functions”. **Experienced as:** Living healthily as organisms in an environment.

But what is “living”? It consists at least in the organism maintaining its equilibrium separately from the environment, with repair, and also the ability to reproduce after its kind.

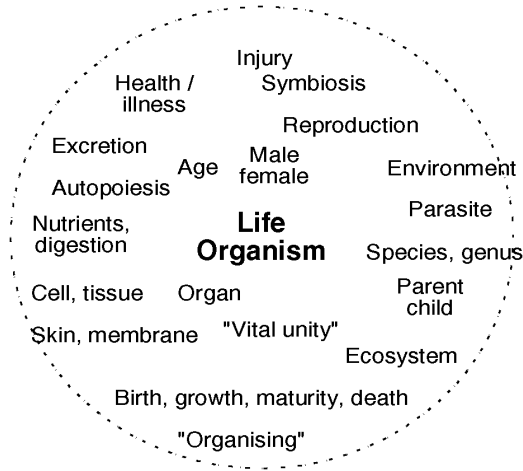


Figure 9.5 The organic/biotic aspect and some of its constellation

### Good and Evil:

- The possibility of *organisms* that can *sustain themselves* within their *environment*, dependent on it but not wholly controlled by it, and *reproduce* after their own kind.
- Separateness (not discreteness) enters with the organic aspect.
- From the biotic aspect onwards, it is meaningful to talk of negative as well as positive: death, disease, poison, starvation, injury, etc.

### Foundational Dependencies:

- On chemical processes, to form cellular materials. Example: Digestion depends on chemical reactions—but such chemical reactions can only rightly be called digestion if they serve to keep their organism alive.
- Cell processes depend on causality, forces, transport of chemicals, etc.

### Differences From Neighbours:

- Organism's equilibrium state is not determined by the physical environment.
- Physical laws are those of fields, and extend to infinity; organic-biotic laws are those of the organism, relative to its distinct entity.
- The more we use a physical thing, the more it wears out and the weaker it gets; the more we use an organic thing (e.g. muscle), the more it builds and the stronger it gets.

### Notes, Discussion: NC,II, 107–11

Dooyeweerd's discussion is brief and not entirely clear. 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.

**Analogies of This Aspect:**

- Birth, growth, maturity, environment have clear analogical meaning for businesses (economic entities).
- Health is used analogically for good in many aspects.

**Mistakes:**

- Materialist reductionism assumes dependency implies reducibility.
- Vitalism treats life as a special substance or property (§4–3.3) added to matter, rather than an aspect. Hartmann makes the mistake of saying that life “transforms” matter (NC,II, 110–1 footnote).

**Anticipations:**

- Activity in a cell usually affects other cells in its proximity. But nerve cells have special properties: very long dendrites which are surrounded 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.

**9–1.6 The Psychic/Sensitive Aspect**

**Kernel:** Feeling, emotion. **Experienced as:** Sensing, responding and feeling (such that animals have, like fear, hunger).

Psychical functioning is both of the whole organism and also of the organs and cells (nervous system and neurons), which includes signal transmission, pattern-detection, pattern-recognition and memory.

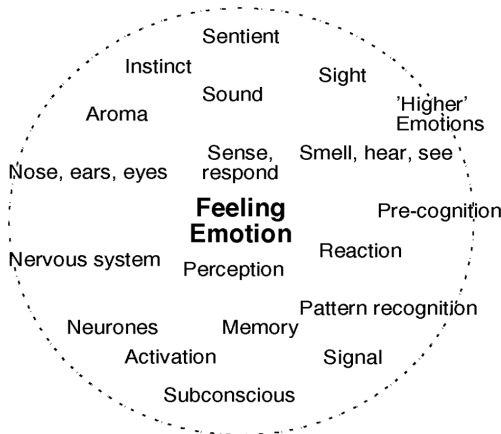


Figure 9.6 The psychic-sensitive aspect and some of its constellation

### Good and Evil:

- This is the first aspect to introduce interactive engagement with the world (via senses and employing mental processes).
- Dysfunction: insensitivity, memory loss, etc.

### Foundational Dependencies:

- Organic functions make the mental possible.
- The spatio-organic axon-dendron arrangement of neurones is the organic foundation of memory and recognition.
- Physical persistence (change in chemical composition) makes memory possible. Physical causation (electro-chemistry) makes signal-transmission possible.

### Differences From Neighbours:

- Mental rather than bodily functions.
- Whereas organic-biotic organisms react passively to world (e.g. plant growing towards light), psychic-sensitive interaction is active.
- Organic functions operate by spatial proximity; psychic functions escape spatiality (e.g. neuronal signals to feet, hence the need for insulating sheaths).

### Notes, Discussion: NC,II, 111–118

- Dooyeweerd does not discuss neuronal functioning, so the above is my own suggestion.
- Dooyeweerd's discussion of the psychic aspect: (a) why the kernel meaning is feeling rather than soul; (b) why psychic feeling cannot be set alongside volition and knowledge as *Erlebnisse* (Kant), which are trans-aspectual (c.f. §4–3.12).

### Example Analogies:

- The 'feeling' of a meeting is usually social agreement with some attitude (ethical).

### Mistakes:

- Usually, "I feel that . . ." is not psychic but analytic or pistic.
- Much of our feeling, e.g. of beauty or contentment, imports meaningfulness from later aspects, which are targets (§4–3.8.1) of the psychical feeling.

### Anticipations:

- Psychic memory anticipates cognitive concept nets; pattern recognition anticipates focal attention.
- Post-animal feelings (such as beauty, insult) are psychic feeling targeting later aspects (aesthetic, ethical).

9–1.7 The Analytical Aspect

**Kernel:** Distinction: “setting apart what is given together” (NC,I, 39). **Experienced as:** Conceptualising, clarifying, categorising and cogitating. Conceptualising is of something meaningful in the world (c.f. interpretation-meaning, §4–1). We clarify that meaning, separating ‘this’ from ‘that’. Categorising differentiates ways of being meaningful. Cogitating is thinking that involves these.

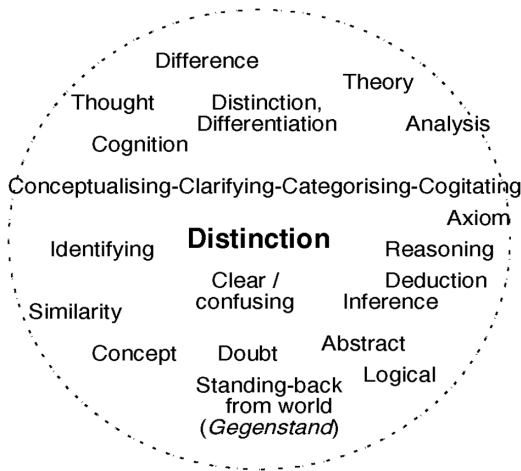


Figure 9.7 The analytic aspect and some of its constellation

**Good and Evil:**

- Ability to think independently of the world as given.
- This in turn allows imagination, fiction, even impossibilities (e.g. square circle).
- It also enables the *Gegenstand* attitude of **theoretical thought** (§2–1.1, §6–3.3) and the ability to distinguish aspects (§4–3.13).
- Enables ‘conscious’ awareness.
- Dysfunction: confusion.
- Evil: The independence from the world enabled by this aspect makes it easier for us to be arrogant, act selfishly and perpetrate or ignore injustice.

**Foundational Dependencies:**

- Depends on psychical functioning in nervous system. There can be no disembodied minds in this temporal reality.

**Differences From Neighbours:**

- Independence from world: The organic 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.

- Analytic mental activity is less bound to the senses than psychic is.
- Psychic pattern recognition (e.g. animals recognising mates) is not conceptualisation (NC,I, 39) (c.f. two streams in artificial intelligence: cognitive and neural nets).
- Psychic functioning is analog; analytic is digital.

**Notes, Discussion:** NC,II, 118–125

- Other names: Logical aspect.
- Dooyeweerd's discussion is mainly about relationships with other aspects—though his whole discussion of theoretical thought is an indirect discussion of this aspect: its *Gegenstand* requires analytic independence from world.
- Independence is not absolute autonomy. It operates by reference to aspects, e.g. thinking about square circles requires prior intuition of spatial meaningfulness.

**Analogies of This Aspect:**

- Analytic logic/reason has analogies in all aspects as their rationality (sense-making: “The reason I did this was . . .”); see §4–3.6.
- Clarity of text is analytic analogy in lingual. (Clarity of judgement is not analytic analogy but analytic functioning in the multi-aspectual activity of judging.)
- Aspectual distinction might be an analytic analogy on the entire suite of aspects.

**Mistakes:**

- “Distinction” refers not to social distinction or to animals recognising their mates (which is psychic pattern recognition), but to crisp concepts.

**Anticipations:**

- Imagination anticipates formative, lingual and aesthetic creativity.
- Ability to conceptualise anticipates formative power.

### 9–1.8 *The Formative Aspect*

**Kernel:** Formative power. **Experienced as:** Shaping, making, planning, achieving; innovation (NC,II, 198); goals, techniques, tools, technology. 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, etc. Historical impact is formative.

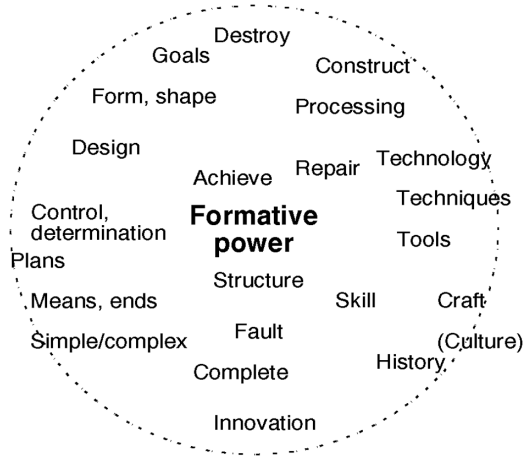


Figure 9.8 The formative aspect and some of its constellation

**Good and Evil:**

- Achievement and innovation; construction.
- The good of achievement and innovation can then occur in any target aspect.
- Through technology, technique and training, good in any targeted aspect can be amplified. So can evil.
- Dysfunction: laziness or destruction (not deconstruction).

**Foundational Dependencies:**

- Formative functioning depends on analytical functioning (conceptualising, etc.).

**Differences From Neighbours:**

- From analytic: doing rather than thinking.
- Construction versus deconstruction.
- While the analytic aspect distances us from the world, the formative aspect achieves things in the world and makes changes in the world; c.f. theory-practice duality.

**Notes, Discussion:** NC,II, 68–9, 192–217, 218–98

- Other names: Cultural, historical aspect (Dooyeweerd’s names. History is the story of human formative power or achievement (NC,II, 193)—but “history” connotes the past. In Dutch the root of the word *culture* refers to human formative power (as in *agri-culture*)—but, in English, “culture” is strongly social. Hence, here, “formative”.

- Pages 192–217 discuss many other views and pages 218–98 link with other aspects, the history of humankind, and progress as humanity's “opening up” of aspects.
- De Raadt (2002) splits this into operational and historical aspects.

**Analogies of This Aspect:**

- Work is formative, with analogy in physical (kWh) and economic.
- Power is formative, with analogy in physical (watts) and in the juridical as oppressive power relationships.
- Aspectual structure might be a formative analogy of the entire suite of aspects.

**Mistakes:**

- Spiders building webs is not formative functioning, but by psychical instinct (NC,II, 198).

**Anticipations:**

- Much that we form—boundary stones, hieroglyphics, stories—has symbolic value, but this cannot be understood from the formative aspect. It anticipates the lingual aspect.
- Whereas our formative functioning leaves a trace in the world, its meaning is not clear; with lingual functioning, it can be much clearer.
- Formative creativity anticipates the aesthetic.

9–1.9 *The Lingual Aspect*

**Kernel:** Symbolic signification. **Experienced as:** Expressing, recording and reading/hearing. This can be by speech, text, pictures, gestures and even such things as boundary stones. The main aspect of signs, symbols, signification-meanings (§4–3.11.1), discussion and argument.

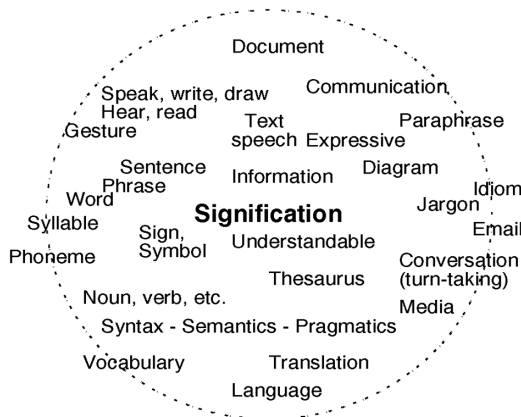


Figure 9.9 The lingual aspect and some of its constellation



**Good and Evil:**

- The lingual aspect is the first that enables externalisation of clearly intended (target) meanings, so they can persist and/or be shared with others.
- Dysfunction: deceit, obfuscation and equivocation.

**Foundational Dependencies:**

- Formative structuring is essential for lingual functioning: syntax. So is analytical conceptualising into distinct linguistic units.
- The precise signification-meaning of a symbol varies with historical (formative) context. It is the social aspect (anticipatory dependency), however, that determines whether it is at the right time and in the appropriate situation.

**Differences From Neighbours:**

- Structure v. its signification; syntax v. semantics.
- Formative internalises, lingual externalises. If we forget or die, our formed thoughts are lost; if written down, they can persist.
- However, making of artefacts (formative) can externalise attribution-meanings, but these are not as precise as lingual signification-meanings.

**Notes, Discussion:** NC,II, 221–7, 284–5

- Other names: Epistemic aspect (de Raadt 2002).
- Signification-meanings are objects generated by lingual function, targeting other aspects (§4–3.11).
- Dooyeweerd’s discussion is rather brief, surprising for someone for whom meaning is so important.
- Dooyeweerd privileges neither recipient (reader, hearer) nor originator (writer, speaker), nor sign nor the signified, but sees them all as functioning in the ‘ocean’ of meaningfulness (§4–3.10). Many other thinkers (de Saussure, Peirce, Barthes) privilege one of them.

**Analogies of This Aspect:**

- ‘Reading’ a landscape is lingual analogy in the analytic aspect (§4–3.11.2, §11–4.3), quantum ‘information’ in the physical.
- Aspects as kinds of meaning: That each aspect is meaningful in a different way might be seen as an analogy of the lingual in the entire system of aspect; this is Strauss’ (2013) view.

**Mistakes:**

- See analogies: ‘reading’ is not reading, etc.

**Anticipations:**

- Agreement about the signification of signs cannot easily be accounted for by the lingual aspect but requires the social. This is especially so for connotation, idiom, etc.
- Succinctness anticipates the economic, interest, the aesthetic, and truth the juridical aspects.

**9–1.10 The Social Aspect**

**Kernel:** “Social intercourse” (Dooyeweerd); “Company” (Stafleu 2005).  
**Experienced as:** We, us and them; agreeing, appointing and associating. Agreeing implies shared action, belief, assumptions, etc. Associating implies treating others as like myself and submerging (though not obliterating) the *I* in the *we*. Association is either relationships or institutions, and implies roles (reader-writer, leader-follower, etc.), hence “appointing”.

Communities and organisations are social wholes, formed of agreement and association, with more or less internal structure. Different types are led by different aspects (target aspect of social functioning), such as business (economic), the state (juridical) and the media (lingual).

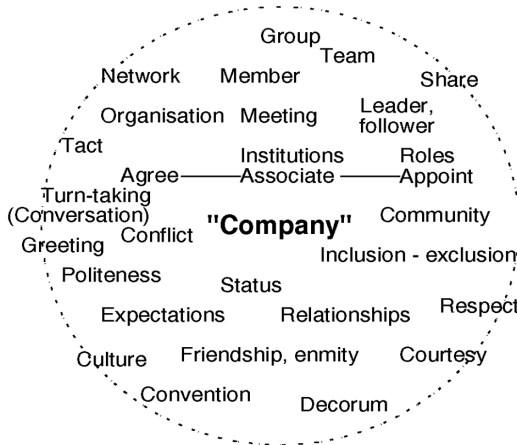


Figure 9.10 The social aspect and some of its constellation

**Good and Evil:**

- The social aspect enables working together. Especially with institutions, this *amplifies* the functioning and impact of individuals beyond their sum—whether for good or evil. The impact that is amplified is in a target aspect.

- Dysfunction: Aloofness, disrespect, rudeness, etc. (Disagreement is not necessarily a dysfunction.)

**Foundational Dependencies:**

- Without lingual externalisation of pieces of meaning, good social functioning would not be possible.
- On the formative; see Discussion.

**Differences From Neighbours:**

- Lingual is (inter-)individual; social is communal.

**Notes, Discussion:** NC,II, 141, 227–8

- Dooyeweerd's discussion of the kernel of the social aspect is surprisingly meagre, though he does have a lengthy discussion of social categories and institutions (NC,III, 565–624; Dooyeweerd 1986).
- He uses the term “intercourse”, listing norms like “courtesy, good manners, tact, sociableness, fashion, and so on” (NC,II, 141 footnote) and “making a bow, giving a handshake, lifting one's hat, letting a superior precede” (pp. 227–8).
- How (European) times change! No longer do we lift hats. This shows the important part the formative (historical) aspect plays, but Dooyeweerd argues why social cannot be reduced to formative. His discussion of social institutions shows Dooyeweerd recognises much more than such norms.
- In his theory of social institutions, Dooyeweerd (1986) drew fundamental distinctions within the social aspect between inter-personal, intra-communal and inter-communal relationships. Class distinctions and power relationships are harmful in inter-personal and intra-communal relationships but may be valid in inter-communal.

**Analogies of This Aspect:**

- Relationship as a link between two concepts (e.g. in databases) is a social analogy in the formative aspect. That between two mathematical variables is a social analogy in the quantitative (also kinematic).
- Plant or animal “societies” is a social analogy in the organic aspect and in the psychic of interaction.
- (Inverse) The word “organisation” betrays its roots in (analogy with) the organic aspect.
- The relating of aspects: That each relates to others and each seems to have a distinct role might be an analogy of the social in the entire system of aspects.

**Mistakes:**

- Some social scientists tend to assume that all post-social functioning can be treated as mere sub-fields of sociology (NC,III, 157ff).
- Inter-individual activity is not always social; can be e.g. lingual.

**Anticipations:**

- Togetherness anticipates respect (juridical) and courtesy (ethical). Togetherness gains strength from self-giving and is undermined by selfishness (ethical aspect).
- Acting together to bring the good that is *shalom* (§4–3.7) requires transfer of “goods”. These are resources; to understand this anticipates the economic aspect.

**9–1.11 The Economic Aspect**

**Kernel:** Frugality. **Experienced as:** Managing limited resources carefully, treating them as having value. 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” (NC,II, 66). This can be at level of individuals, organisations, societies and humanity as a whole. Resources can be of any type (here, words).

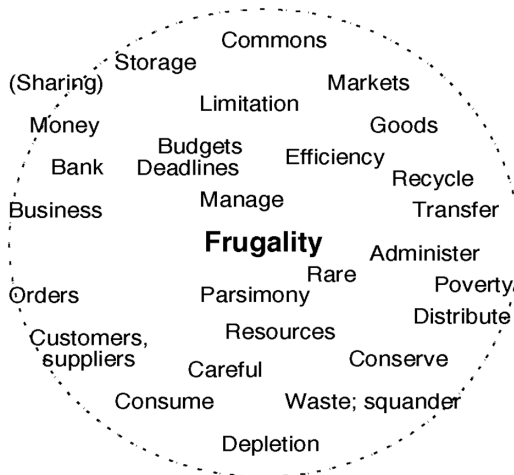


Figure 9.11 The economic aspect and some of its constellation

**Good and Evil:**

- Sustainable *shalom*.
- Frugality brings good, not only during scarcity, but also during plenty. This not only sustains future prosperity but also stimulates originality, responsibility and generosity.
- *Satisfaction* of needs is good economic functioning, not maximisation of capital (profits, income, owner value, GDP, etc.); cf. Simon (1956).

- Dysfunction: waste, squandering resources, leading to unsustainability, destitution.

**Foundational Dependencies:**

- Frugality can be individual, but its fuller form involves distribution of resources, which depends on social functioning. Economic needs-satisfaction is not primarily for individuals but for “us and them”, including future needs.
- Economic functioning depends on formative (planning) and lingual (tokens of value).

**Differences From Neighbours:**

- Social is relating; economic is managing.
- The economic has some notion of limits and resources; the social lacks this.

**Notes, Discussion:** NC,II, 66–7, 122–7, 344–5, 360–2

- Most of Dooyeweerd’s discussion is devoted to economy of thought, logic, language, aesthetics and law rather than ‘the economy’.
- Currency (money) is only a quantitative measure of lingual tokens of value, and not itself value.
- Modern economics is distorted by a mechanistic view of the world (NC,II, 344).
- 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.
- Marx’s error was to absolutise the economic aspect (NC,II, 293).

**Analogies of This Aspect:**

- “Value” is an economic term, but is often used analogically to refer to the kinds of good that each aspect brings, such as social value, aesthetic value. Similarly, “capital”.
- The value of all aspects: That each aspect contributes some value to reality might be an analogy of the economic in the entire system of aspects.

**Mistakes:**

- Economic is not primarily to do with money or finance, nor to do with production, exchange and consumption. These are means to the end of frugality.
- Growth is organic analogy, so imposition of organic laws on the economy misdirects and harms it.
- Over-emphasising accounting (quantitative) or money (lingual symbol) distorts the economic aspect, leading to aesthetic dysfunction.

**Anticipations:**

- Economy of words is good in writing and especially poetry, but to understand why this is so requires the meaningfulness of the aesthetic aspect.
- Originality, responsibility and generosity, stimulated by frugality, are meaningful in the next three aspects.
- 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.

**9–1.12 The Aesthetic Aspect**

**Kernel:** Harmony, delight. **Experienced as:** holism, orchestration, integration, rest, leisure, enjoying, playing, beautifying, humour and fun. Surprise and originality are aesthetic. The orchestra of daily life, a multitude of instruments, generates something harmonious, interesting and enjoyable—or not, as the case may be. “Whole is more than sum of parts.”

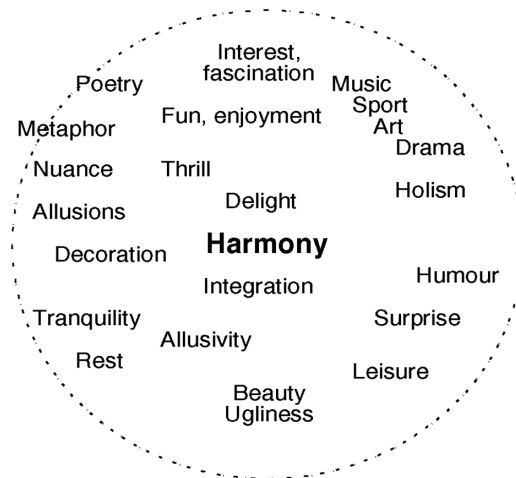


Figure 9.12 The aesthetic aspect and some of its constellation

**Good and Evil:**

- Aesthetic aspect is the first that makes harmony and integration meaningful. In research: innovative harmony with extant knowledge.
- It makes delight (enjoyment, interest, fascination, fun, ecstasy, etc.) possible.
- Aesthetic dysfunction: tedium, repulsiveness, pretension, fragmentation, snobbery.
- See Seerveld's (2001, 175) table of aesthetic normativity.

**Foundational Dependencies:**

- The best aesthetic is frugal (economic), it “speaks” (lingual) and is crafted (formative), and is worse for excess and lazy execution.
- What is considered beauty is socially agreed.

**Differences From Neighbours:**

- Economic parsimony v. aesthetic play; necessity v. delight.
- Purely economic criteria in building generates ugliness and tedium (aesthetic dysfunction).

**Notes, Discussion:** NC,II, 66–7, 128, 139, 345–8

- The aesthetic aspect seems to cover two things: harmony and delight. Should it be split in two? Jones (2007) believes so, from his experience in sustainability, arguing that integration does not ensure beauty. Dooyeweerd emphasises harmony; Seerveld (2001), delight. Yet there is an intuitive link between the two.
- This has generated considerable discussion about Dooyeweerd’s understanding of aesthetic meaningfulness in Reformational Philosophy (Seerveld 2001 and many others), suggesting perhaps that Dooyeweerd’s view is not sustainable. An extensive collection of such discussions of the aesthetic aspect may be found at <http://dooy.info/aesthetic.html>.
- Maybe they combine as follows. Dooyeweerd asks, “What is beauty? What makes it possible?” and answers with “Harmony”. A poem, film or piece of music with many threads that all interweave and come together is seen as finer or greater art.
- Seerveld (2001) argues that the kernel meaningfulness is “nuance”, but is he over-emphasising links with the analytic aspect?
- Harmony is always urging us to see the whole. It is a close friend of Truth (NC,II, 347).

**Analogies of This Aspect:**

- Aesthetic harmonious “wholeness”: organic health, organic ecosystem, social concord, formative integrality.
- Aesthetic rest: psychic relaxation, pistic sabbath.
- Harmony is not uniformity nor sameness; c.f. symphony.
- That each aspect coheres with others, in several ways, might be an analogy of aesthetic harmony in the entire system of aspects.

**Mistakes:**

- Harmony is not uniformity but the oneness of an orchestra or good team.
- Aesthetic is not confined to ‘art’ but pervades all of life. The aesthetic aspect is for everyone, not just the affluent, refined, clever,

educated. Artists have no special claim on it. The aesthetic aspect goes beyond art. "The beauty of nature," Dooyeweerd wrote (NC,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." Mundane activities can be aesthetic.

**Anticipations:**

- "Only in justice must delight be sown; only by love should delight be watered; only in faith can true delight blossom" (Basden 2011b).
- Juridical depends on the sense of the whole that the aesthetic makes possible (NC,II, 135).
- Aesthetic can encourage the evils of unconcern, elitism and snobbery (juridical, ethical, pistic).

**9–1.13 The Juridical Aspect**

**Kernel:** Due. **Experienced as:** Appropriateness, responsibility and justice. We can experience this personally and socially as intuition of what is appropriate in situations, as debt (due to another), as rights and responsibilities, as legal proportionality, the actions of rewarding or punishing ("retribution" (NC,II, 129)), and as (un)fairness, oppression or emancipation.



Figure 9.13 The juridical aspect and some of its constellation

**Good and Evil:**

- The juridical aspect introduces the notion of appropriateness, of proportion, of right and wrong, of 'ought'.
- Juridical introduces (im)partiality, equality and fairness.
- Juridical dysfunction: partiality, inappropriateness, disproportion; injustice, oppression.



**Foundational Dependencies:**

- Depends on social agreement about what is appropriate, due or just for each kind of thing in its situation.
- Impartiality depends on aesthetic harmony: a “well-balanced harmony of a multiplicity of interests” (NC,II, 135).
- The use of precedent in legal judgments must harmonise with all previous judgments (though not necessarily agree).

**Differences From Neighbours:**

- Recreation (aesthetic) v. responsibility (juridical).

**Notes, Discussion:** NC,I, 29, 550, 553; NC,II, 67–70, 119–138, 181–185 and much in 290–411; NC,III discussion of the state

- Due: what is due or appropriate differs according to the type of thing (their aspectual profile, §4–3.4)—plant, animal, human. For humans what is due depends on roles (teacher, student, friend, parent). Due also varies according to situation.
- The misleading connotations of harshness and rigidity in *retribution*, Dooyeweerd argues (pp. 128–34), come from the pagan idea of revenge, the old Indian notion of *karma* and the old Chinese notion of *tao*, and that a richer meaning of retribution emerges with the Biblical notion of love.
- Justice is not justice unless it applies *to all*—not only to myself and people close to me, but also to people further away, the dead, past generations, future generations; to groups, roles, cultures; to animals, habitats: to all according to type. Hence its dependency on aesthetic harmony.
- So societal infrastructures of policy, law and enforcement have emerged, constructed by agreement (social aspect).
- Because of Dooyeweerd’s roots in law and politics, his extensive study of the juridical aspect and especially his investigation of fundamentally different philosophies of law and of its manifestation in the institution of the state are worth taking seriously. But see Chaplin’s criticism in §12–1.5.

**Analogies of This Aspect:**

- That aspectual law guides the temporal actualisation of reality might be an analogy of the juridical in the entire system of aspects (e.g. “law of gravity”).

**Mistakes:**

- Right and wrong: Often confused with goodness (ethical).
- “Justice” is not just legal judgement, but the state of all things together being appropriate.

- “Retribution” is not revenge; see the Discussion.
- Fairness is juridical, but is often overplayed. Occasionally real justice feels unfair to individuals. Similarly equality.

**Anticipations:**

- That juridical functioning is better when tempered with love and mercy, and retribution guided by love is superior to revenge, anticipates the ethical aspect.

**9–1.14 The Ethical Aspect**

**Kernel:** Self-giving Love. **Experienced as:** Attitude of self-giving, generosity, openness (vulnerability), trust, willing sacrifice.

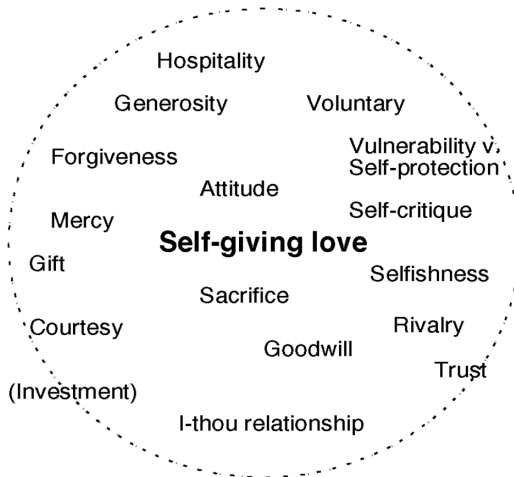


Figure 9.14 The ethical aspect and some of its constellation

**Good and Evil:**

- Full ethical functioning permeates reality with extra goodness, beyond the imperative of due, e.g. forgiveness.
- Self-giving can change attitudes in others, permeating communities or society, which benefits all, including the giver.
- Dysfunction: not hatred so much as selfishness, self-protection, advantage-taking, competitiveness, uncaringness, and so on, and these retroactively poison earlier aspects.
- In almost all cultures, those we call “truly good” are self-giving rather than selfish.

**Dependencies:**

- One can hardly claim love when one deprives others of justice.
- Like juridical functioning, ethical functioning is orientated towards the whole (aesthetic).

**Differences From Neighbours:**

- Law (juridical) v. love (ethical). (In Christian theology, law v. grace.) Rights v. mercy. Deserts v. generosity, mercy. Reward v. gift.
- Repaying good for good, evil for evil (juridical) ameliorates wrongs proportionately (zero-sum); repaying good for evil (ethical) increases the sum total of good in reality.
- Copyright (juridical) v. “copyleft”, open source software (ethical).
- Self-giving vulnerability disarms hostility more effectively than laws or punishment do.
- Aesthetic and ethical functioning go beyond imperative, but whereas in aesthetic functioning, we ourselves benefit, in ethical the other benefits. *Agapè* rather than *eros* (NC,II, 153).

**Notes, Discussion:** NC,II, 141–60

- Also known as “moral aspect”, “trothic aspect”. I sometimes call it “attitudinal aspect” (because ethical functioning is not just overt acts of self-giving, so much as inner, oft-hidden attitude).
- Dooyeweerd (pp. 157–60) expresses the kernel meaningfulness of this aspect as “love”. “Self-giving” is prefixed to it here, to differentiate it from self-centred desire.
- Notice the *paradox in the ethical aspect*: Giving with even the slightest hope that we ourselves will benefit (as in much social ‘generosity’) can become its opposite!
- Dooyeweerd argues that views of ethics by thinkers like Aristotle, Kant, Buber, Aalders and Brunner are controlled by dialectical presuppositions (§5–2.4) that make it difficult to keep morality separate from legality or faith (juridical, pistic), which is necessary (NC,II, 148). (However, does Dooyeweerd misinterpret Buber’s distinction between I-thou and I-it, which I see as overcoming Heidegger’s conflation of self-giving and self-formation?)

**Analogies of This Aspect:**

- Sharing goods is an ethical analogy in the economic; sharing stories is an ethical analogy in the lingual.
- Investment is an ethical analogy in economic functioning.

**Mistakes:**

- “Research ethics” is mainly juridical rather than ethical in the Dooyeweerdian sense.

**Anticipations:**

- What motivates self-giving? Never pushing itself, self-giving cannot be its own motivation; motivation is pistic.

**9–1.15 The Pistic/Faith Aspect**

**Kernel:** Faith, commitment. **Experienced as:** Belief, commitment, certainty, motivation, courage, ultimate meaningfulness, hope, morale.

Pistic ranges from that “immediate certainty which manifests itself . . . in practical life” (NC,II, 299) by which we live moment by moment (e.g. assuming chair will hold my weight), to firm ideological or religious belief for which people give their lives. Pistic is found at personal, group and societal levels as, for example, personal beliefs and the courage of those who stand alone; group beliefs and mindset (including *Weltanschauungen*); presuppositions that determine the direction in which theoretical thinking develops (§5–2).



Figure 9.15 The pistic aspect and some of its constellation

**Good and Evil:**

- Good: Courage, motivation, loyalty, hope, meaningfulness.
- Pistic enables the direction of society to be changed.
- Pistic functioning is profound and powerful in its retrocipatory effects on all other functioning, bringing out both the best good and the worst evil.
- Dysfunction: Pride, hubris, narcissism (partly ethical), cowardice, disloyalty, despair, idolatry, meaninglessness.

**Foundational Dependencies:**

- Depends on good functioning in all aspects, for example the lingual (to exhort, praise), the social (together in a cause), but especially the juridical and ethical aspects.

**Differences From Neighbours:**

- Pistic commitment motivates ethical self-giving.
- Religious differences do not imply ethical differences.

**Notes, Discussion:** NC,II, 298–334

- Also known as “certitudinal aspect”, “fiduciary aspect”, “credal aspect” (which misleadingly connotes statements of faith).
- Faith is not *doxa* (Greek: hypothetical opinion) but is *pistis*, firm faith that is active certainty (pp. 303–5).
- Pistic functioning includes our ultimate identity—who we see ourselves to be and our ultimate meaningfulness—from which derives our life-meanings. Is this why identity politics runs deeper than justice politics?
- Dooyeweerd links pistic to our ability to transcend time (NC,II, 304).
- How faith relates to magic, totemism and myths: p. 312–8.
- Clouser (2005) differentiates religious from non-religious beliefs. Religious beliefs are *divinity beliefs* about what is ultimately self-dependent and on which all else depends; non-religious pistic functioning involves non-ultimate depending, e.g. assuming chair will take my weight.
- Dooyeweerd’s entire NC, Volume I, may be seen as an argument that faith underlies all theoretical thought.
- In arguing the importance of faith in history (NC,II, 291–8), does Dooyeweerd place too much emphasis on Augustine’s notion of struggle between *civitas Dei* and *civitas terrena*?
- Sadly, much of Dooyeweerd’s discussion of this aspect seems occupied with defending his ideas against other Christian thinkers (who had attacked them). Ho-hum, the NGGM!

**Analogies of This Aspect:**

- Trust is pistic analogy in the ethical.

**Mistakes:**

- Assent to a creed is usually social, and only pistic if it expresses one’s deepest faith-commitment.

**Anticipations:**

- None. 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” (NC,II, 307). It is therefore the aspect of human functioning that welcomes Divine Revelation, or rejects it and welcomes a substitute.

## 9–2. Grouping the Aspects?

Dooyeweerd is adamant that there are no *genus proxima* (NC,II, 14), no ‘super-aspects’ that group the aspects together. However, we often find it useful to group them according to what is meaningful to us at the time, for particular purposes. Indeed, Dooyeweerd himself occasionally does this, for example calling the first three the “mathematical aspects” (e.g. NC,II, 12).

Common groupings include:

- “physical” (including organic)—mental—social (5–4–6 aspects);
- mathematical—pre-human—cognitive—social—societal (3 aspects each)
- de Raadt (2002) groups aspects into character—civic—intellect.

The Good that a group offers is that of all its aspects, possibly with emphasis on one of the group. Be wary of grouping aspects. No one aspectual Good is *a priori* more important than any other.

## 9–3. Comparison With Other Suites

Many thinkers have come up with other suites of aspects. Table 9.1 (in two parts) compares some with Dooyeweerd’s suite.

Discussion of these may be found in “<http://dooy.info/compare.asp.html>” or Basden (2018a, 64–5).

Despite some combining or overlapping, three things stand out. (1) Most of the suites are subsets of Dooyeweerd’s. (2) In most suites, the order is similar. This implies that Dooyeweerd’s suite is at least a reasonable one to use. The way Dooyeweerd delineated aspects (§4–3.13), and his philosophical underpinning of them, makes it even more reasonable. (3) Some things seem to be multi-aspectual, e.g. being, functioning, risk, danger.

*Research opportunity: suites of aspects.* The comparison of aspectual suites is based only on cursory reading in some cases and has not been subjected to peer review. Make it more rigorous by fuller discussion of each thinker’s aspects in comparison with Dooyeweerd.

Table 9.1 Suites of aspects compared

<i>Dooyeweerd Aspects</i>	<i>Maslow Needs</i>	<i>Checkland 'E's</i>	<i>Hartmann Strata</i>	<i>Bunge System Levels</i>	<i>Giddens Modalities</i>	<i>Habermas Action Types</i>	<i>Kierkegaard Stages</i>	<i>Wilensius Boulding</i>	<i>Rogot Thesaurus</i>	<i>Encyc. Britannica</i>
Quantitative									Abstract relations	Maths
Spatial									Space	
Kinematic									Space (motion)	
Physical			Inorganic	Physical Chemical				Physical	Matter	Matter Energy Earth
Organic/Biotic	Biological		Organic	Biological				Organic	Creodic Reproductive Evolutionary Ecological	Life
Psychic/Sensitive	Safety		Psychic					Mental Psychological	Affection: personal	Life
Analytic	Enquiry	Efficacy						Human	Intellect	Logic Science Philosophy

*Continued...*

... Continued

<i>Dooyeweerd Aspects</i>	<i>Maslow Needs</i>	<i>Checkland 'E's</i>	<i>Hartmann Strata</i>	<i>Bunge System Levels</i>	<i>Giddens Modalities</i>	<i>Habermas Action Types</i>	<i>Kierkegaard Stages</i>	<i>Wilenius Boulding</i>	<i>Rogot Thesaurus</i>	<i>Encyc. Britannica</i>
Formative		Effectiveness	Historical	Technical	Power Domination	Instrumental				Technology
Lingual	Expression				Interpretive Signification	Communitative				Symbolism
Social	Affiliation Esteem		Supra-individual	Social		Strategic?	Social	Social	Affection: sympathetic	Society History
Economic		Efficiency			Resources					
Aesthetic	Aesthetic	Elegance				Dramaturgical	Aesthetic	Aesthetic Social?		Art
Juridical					Norms Legitimation	Normatively regulated	Truth	Social?	Affection: moral	Law Politics
Ethical/Attitudinal		Ethicality			Domination Moral sanction		Ethical (giving)	Ethics	Affection: moral	
Pistic/Faith	Transcendence Self-actualisation				Meaning	Discursive?	Religious belief	Religious Transcendental	Affection: religion	Religion



#### 9–4. On Trusting Dooyeweerd’s Suite

In discussing foundations of a field, any suite of aspects could in principle be employed that has irreducibly distinct kernels and for which inter-aspect relationships are understood, but Dooyeweerd’s suite:

- has wider coverage than other suites, including mathematical, pre-human, cognitive, social and societal aspects (see §9–3);
- coheres (see §3–2.4);
- is geared to everyday (‘real life’) experience (see §3–2.1), rather than specific interests (e.g. Bunge’s systems, Maslow’s needs);
- takes into account 2,500 years of reflection across several cultures—including the Scholastic period, which some skip—so may be expected to apply in cross-cultural research (see §4–4.2);
- is grounded in a clear philosophical understanding of the nature of aspects (Chapter 4);
- has been subjected to the philosophical scrutiny of excluding antinomies (§4–3.13).

At this point in time, Dooyeweerd’s suite of aspects seems to be the best suite available to us.

However, as Dooyeweerd warns us (NC,II, 556) no suite of aspects can ever claim to be a final truth. As Dooyeweerd says, “Theoretical thought has never finished its task”—especially not that of delineating the aspects. At any time, other aspects might be discovered, or existing aspects need to be split, merged or modified. However, as discussed in Basden (2008a, 2018a), attempts by others to alter Dooyeweerd’s suite have not been entirely convincing. So, we may use Dooyeweerd’s suite, but with caution and self-critique.

#### 9–5. Conclusion

This chapter presents an understanding of what is meaningful and good in each aspect. Full intuitive grasp of aspectual meaningfulness does not occur however just by reading, but by living reflectively within the aspects. This chapter can assist that living and reflection, especially during research.

It is intended for reference by the researcher and others during analysis of research data or texts, or the clarification of ideas or conceptual frameworks. The following chapters make much use of Dooyeweerd’s aspects to understand the complex, multi-aspectual, human activity that is research (Chapter 10) and, through all stages of research, in dealing with research content (Chapter 11).

# 10 The Complex Activity of Research

This chapter is primarily about research activity, rather than content or application. As discussed in Chapter 2, the theoretical thinking that is the core of research cannot be separated from its everyday experience. Even mathematics, which some consider the purest, most analytical and most dispassionate form of research,

involves more than just numbers and black boards but also politics, passion and dedication. It is no longer just a boring look at historical numbers and theories but a real life feel to the story behind the work.

(Curtis & Tularam 2011, 267)

Shortly before that, Curtis & Tularam remark (p. 263),

Little is known about what the real life aspects behind the numbers represents. There is also not much written on the passion, politics and real life but rather one notes instead numerous texts on higher level work with pages of lifeless numbers.

This chapter attempts to rectify that. Though the philosophical underpinnings of research may be understood via Ground-Ideas, as discussed in Chapter 7, actually carrying out research is multi-aspectual functioning (§4–3.8.2), involving every aspect in coherence with all others. In research activity, we function in every aspect simultaneously, pre-human, individual, social and societal together. The aspects are irreducibly distinct and yet inherently inter-dependent and without fundamental conflict (§3–2). Each makes a distinct kind of Good possible (§4–3.7).

This chapter discusses each aspect, not only describing research activity, but also offering it as a criterion with which to guide and evaluate research. Since the analytical functioning of research has been discussed deeply in Part II, this chapter concentrates more on other aspects. In Section 10–3, the ‘obvious’ aspectual functioning in research activity is briefly discussed, but it is the non-obvious, hidden aspects of research that require most discussion. This occurs in Section 10–4. Before that, Section 10–1 outlines an overall attitude and approach which I have found useful, and Section 10–2 introduces research as multi-aspectual functioning.

## 10–1. Overall Approach: “LACE”

In Chapter 5, I argued that Dooyeweerd’s approach was not antagonistic nor acquiescent to mainstream philosophies but critically engaged therewith. Several times, “listen, affirm, critique, enrich” (acronym “LACE”) has been mentioned. This is an approach I have deployed to engage with thought that is based on different research philosophies, approaches, ground-motives or standpoints from my own. I recount it here for any reader who, likewise, wishes to engage with thought that differs from their own in fundamental ways. It rests on the presupposition of a common ‘ocean’ of meaningfulness in which we all ‘swim’ (§4–3.10). Doubtless, other methods are available too.

### 10–1.1 *The Elements of LACE*

LACE is partly a technique and partly an attitude. Listening and affirming free us from antagonism, while critiquing and enriching free us from acquiescence, to engage fruitfully with different streams of thinking. The four elements are expressed as guidance.

- **Listen** to the ideas and discourses intently, to discern what is primarily meaningful at their core. Respect the diversity of meaningfulness, assisted by an intuitive grasp of Dooyeweerd’s aspects (§4–3.13). In their own terms, concepts and values rather than my own, what were they trying, deep down, to achieve, and why—what is their motivation? This prepares us for both immanent and transcendental critiques (see §6–2).
- **Affirm**, as far as possible, what their discourse aims at by understanding from their perspective what they see as problematic in previous thought (which might be any elements of the underlying Ground-Idea). Refuse to get distracted by peripheral paraphernalia like connotative terminology. This is part of immanent critique (§6–2.1). The lenses through which researchers view the world can be identified by reference to Dooyeweerd’s aspects and related by his understanding of inter-aspect relationships (§3–2.4). (Aligning lenses with ground-motive poles, as some Reformational philosophers do, I find less helpful, because it incites rejection.)
- **Critique** the way the other thought has developed, by exposing foundational presuppositions, and work out whether they prevent their ideas achieving what they hoped. This is part of immanent critique. Often, what has been proposed to fulfil their motivation has been constrained by an immanence-standpoint or dialectical ground-motive; refer to problems of these in §5–3.1, §5–2.4, especially absolutisation of aspects. Work out what is generally necessary to fulfil their motivation (transcendental critique, §6–3). I find that thinking in terms of meaningfulness is helpful here.
- **Enrich** their ideas. The transcendental critique prepares for this by clarifying what is important. I have found insights from Dooyeweerd’s philosophy helpful, especially aspects that have been overlooked.

The process can reveal unexpected possibilities not currently discussed, including new paradigms. Listening and affirming are especially important when there is disagreement or even dislike.

Examples follow of LACE in action, with two of philosophy's roles, approaches (§5–1.2) and foundations (5–1.3). Though, from my experience in the field of information systems, they may be generalised for other fields.

### 10–1.2 *Example of LACE With Information Systems Approaches*

The discussion of apparently incommensurable approaches in §7–3.1, and at greater length in Basden (2011a), is actually an exercise in LACE; it should be read alongside what follows.

First, we *listened* to what was said about positivist, interpretivist and socio-critical approaches by their proponents and opponents, to understand what each tries to do and what motivates it. Using Dooyeweerd's notion of Ground-Idea (§7–1) and his suite of aspects, we identified how each approach understands the world, what rationalities each employs and the wider meaningfulness that is referred to by its community when critiquing research within the approach. Dooyeweerd's aspects not only helped separate out differently meaningful issues, but, taking aspectual normativity into account, *affirmed* them. See Table 7.2.

*Critique* was not of the approaches themselves but of the presumed incommensurability. As argued in §5–2.4, this arises from the Nature-Freedom ground-motive and leads to irresolvable paradox.

Reinterpreting the approaches from Dooyeweerd's pluralistic ground-motive offers two types of *enrichment*. One examines variants of the socio-critical approach (Habermas, Foucault, Bourdieu) by reference to secondary aspects. The apparent paradox of emancipation as both freedom and constraining norm is resolved when understood as of the juridical aspect (§7–3.1). The other incorporates other approaches within the same picture; Basden (2018a, 99–101) adds in action research.

Such an analysis of research approaches does four things. First, it shows that the approaches are not necessarily incommensurable; each might make its own unique contribution. Second, it provides spaces where other approaches may be located that need no longer to be squeezed into the main three, such as action research. Third, it replaces conflict with mutual appreciation and humility as part of the multi-aspectual activity that is research (see later). Fourth, it suggests that there may be a myriad of other research philosophies, each having a different combination of different aspects.

### 10–1.3 *Examples of LACE With Foundations of Information Systems*

Chapters 5 to 9 of Basden (2018a), which are summarised in §11–3.6, explore and sometimes suggest foundational frameworks for understanding the information systems field. They demonstrate various ways in which

Dooyeweerd's ideas can affirm, critique and enrich foundations. The use of LACE is exemplified in its Chapter 6, which formulates a foundational framework for understanding how humans use ICT (information and communication technology).

### *Listen*

Seventeen discourses around ICT use were 'listened to' carefully by reading their literature and by being involved in them. Some are listed below. 'Listened to' were not only academic research literature and professional literature, but also everyday experience. The author's 'listening' occurred over a lifetime of being active in several discourses and activities, from the emergence of the topic in the 1970s to the present day.

The aim of listening is to find out what key issues are central in each discourse. This was informed by some portions of Dooyeweerd's philosophy explained in Section 4–3, such as the novel idea of subject-object, the distinction between law- and subject-object-sides, the multi-levelled understanding of things and of relationships, and the 'oceanic' view of meanings and meaningfulness. See Basden (2018a, 154–219) for details.

It is important to listen especially to minority discourses on the fringe of the field and, by reference to everyday experience, to detect missing discourses, because these can highlight overlooked aspects. Example: Computer games and home computing, in which the aesthetic aspect is important, are under-discussed.

### *Affirm*

The key issues were affirmed by explicit reference to portions of Dooyeweerd's philosophy. For the 17 discourses listed in Basden (2018a, 211–2), different portions were found important, for example:

- 1, Ease of use and interactions with technology (human-computer interaction (HCI))—Aspects, Law-subject-object
- 2, Organizational issues in IS—Aspects, Theory of social institutions, Enkapsis
- 5, ICT in its Wider Environment—Theory of being, Aspects, Immanence Standpoint, Law-subject-object, Enkapsis
- 9, Information systems success—Aspectual normativity
- 14, Discourses on non-use of ICT, resistance—ICT as object within multi-aspectual human functioning; Everyday experience
- 15, Use of features of ICT, Affordance—Aspects, Law-subject-object
- 17, Applications and domains overlooked by the IS field—Target aspects, Meaningfulness of each aspect

Taken as a whole, Dooyeweerd's philosophy was able to affirm each and every discourse.

### *Critique*

Each discourse was critiqued, especially by reference to overlooked aspects or to philosophic theories that take an immanence-standpoint and so get tangled up in its problems, listed in §5–3.1. Some discourses divorce meaningfulness from reality and, especially, ignore normativity. Some, such as that on affordance, struggle because they presuppose the subject-object relationship offered by Descartes or Heidegger. Some struggle with the multi-aspectual nature of reality, being overly reductionist or ignoring aspects. Lack of interest in certain issues (missing discourses) may be critiqued by reference to everyday experience.

### *Enrich*

Dooyeweerd's philosophy enabled a conceptual framework to be sculpted that makes sense of all 17 discourses (an "Aspectual Engagements Framework" described in §11–3.6, in which engaging with interface and technology, with meaningful content and in life with ICT, are all seen as multi-aspectual subject-object and subject-subject functioning). This enabled many of the discourses to be reinterpreted. Not only were many overlooked aspects then offered to the various discourses, but, as discussed in Basden (2008a), separating issues into aspects revealed a third aspectual engagement (with meaningful content) which helped clarify confusions that had occurred when it had been conflated with the other two engagements. The metaphor of ocean of meaningfulness and the innate normativity of aspects proved especially helpful.

Chapters 5, 7, 8, and 9 of Basden (2018a) undertake a similar, though slightly different, exercise of LACE, with four other areas of concern, the nature of information and computers (including artificial intelligence), ICT features, societal issues and information systems development. Nearly 40 other discourses were listened to and enriched in these areas. The exercise resulted in over 100 specific suggestions for projects to enrich research in the IS field.

*Research opportunity: rethinking foundations.* As far as I am aware, the above approach may be applied to any field, from mathematics, through the sciences and humanities, to theology, by listening to discourses and everyday experience for key issues, affirming by reference to portions of Dooyeweerd's philosophy and from these constructing foundational conceptual frameworks, critiquing by reference to failures of the immanence-standpoint and ground-motives, and enriching by reinterpreting the discourses by reference to the framework and other Dooyeweerdian ideas.

## **10–2. Research as Multi-Aspectual Functioning**

Saunders et al. (2012), typical of books on research, has chapters on the:

- Business and management research, reflective diaries and the purpose of this book;

- Formulating and clarifying the research topic;
- Critically reviewing the literature;
- Understanding research philosophies and approaches;
- Formulating the research design;
- Negotiating access and research ethics;
- Selecting samples;
- Using secondary data;
- Collecting primary data through observation;
- Collecting primary data using semi-structured, in-depth and group interviews;
- Collecting primary data using questionnaires;
- Analysing quantitative data;
- Analysing qualitative data;
- Writing and presenting your project report.

This is a reasonably complete set for much research, though perhaps modified in the natural sciences, where data-collection is through experiment or field studies; in mathematics, where imagination, deduction, computer searches or thought experiments play important parts; and in conceptual research like philosophy, where argument is a major activity. In *Research Techniques in Organic Chemistry*, for example, Bates & Schaefer (1971) discuss only three things:

- reaction techniques;
- isolation techniques;
- structure determination techniques.

It was assumed then that all organic chemistry research consists of forming or analysing new compounds, so issues like clarifying research topic and negotiating access and research ethics did not warrant much discussion. In their Introduction, they mention use of literature, but only to find out if the compound of interest has already been studied.

Many texts on research treat it as a collection of *tasks* to be completed, as components of the overall research activity, either in sequence or in cycles. In this chapter, however, the activity of research is discussed from the point of view of its *aspects* rather than its component tasks or activities. This is for three reasons.

1. Aspects are cross-cutting concerns, which might permeate or apply to all tasks and component activities. This is especially so for the later aspects, though some of the middle aspects are those which qualify tasks mentioned above (see Table 10.1). The coherence of meaningfulness (§3–2.4) implies that we cannot justify what we are doing based on one aspect when we ignore, or function poorly in, others. Therefore, research activity is treated as full *multi-aspectual functioning* (§4–3.8.2), in line with its everyday quality (§2–6.2).

2. The tasks mentioned earlier are the obvious activities or aspects of research, whereas there are many hidden issues, such as the impact of competitiveness. These are seldom discussed in research texts, so they are discussed here. Whereas individual issues may be discussed, as isolated problems, they are seldom discussed in relation to each other. Seeing research as meaningful in each aspect helps us do this.
3. Such texts offer guidance for research. The reason for guidance is that there is a difference between success and failure, between good and poor research. This presupposes meaningful normativity. It is in relation to meaningful normativity that we may question the offered guidance, may evaluate or design research for success. But there is a plethora of issues to consider (see Table 10.1) that lead to success or failure, and most texts gloss over them. I have found Dooyeweerd's aspects can help me maintain a whole picture, reveal and affirm hidden issues, and provide a basis for questioning and modifying standard guidance. This is possible because Dooyeweerd's aspects (a) express reasonably well the entire diversity we are likely to encounter and (b) innately guide because of their normativity. I have used them, not to avoid failure as such, but to avoid overlooking and misunderstanding issues that might lead to failure.

Section 10-3 looks at the above, and other, activities through the lens of aspects. Being often discussed, little extra is said here, except to show them all as part of a wider aspectual picture of the whole everyday experience of research. Section 10-4 then discusses hidden aspects one by one.

### **10-3. The More Visible Aspects of Research Activity**

If the central aim of research is to understand, involving theoretical thought, then its primary aspect is the analytic (what Dooyeweerd would call its qualifying aspect). In Chapter 6, three transcendental issues of theoretical thought were discussed, and the activity around each involves analytic functioning: (a) abstracting aspects of the world for study (the analytic *Gegenstand* relationship), (b) applying rationalities to collected data to generate new knowledge and (c) the community distinguishing meaningful from meaningless grounds for critiquing the research.

Dooyeweerd argues in NC,I that theoretical thought is inescapably religious in nature; hence it involves pistic functioning. This is part of his contention that theoretical thought must be understood as undertaken by the fully human person (§2-3.3), and my experience concurs: the real activity of research involves all aspects, alongside the analytic and pistic.

This may be first indicated by asking which aspect primarily makes each of the tasks meaningful, which are listed above for business and organic chemistry research; readers may add their own. These are shown in Column 2 of Table 10.1. Column 3 expands on this, to indicate many more issues, which are mentioned throughout this book, especially §5-2.4, §6-1.2, §6-3.3, §6-3.4, §6-3.5, §7-1.2, §11-6.4, and Table 3.1.



Table 10.1 The multi-aspectual activity of research

<i>Aspect</i>	<i>As listed above</i>	<i>More research activity (examples)</i>
Quantitative	Analysing quantitative data	Measurement; Statistics; Scale; Management evaluation
Spatial		Geographic distance between researchers
Kinematic		Movements of thought
Physical		Physical environment
Organic		Researcher health
Psychic		Sensory-motor activity of observation; Researcher mental health
Analytic	Clarifying research topic, Critically reviewing	Argument, Conceptualisation, Gegenstand Abstraction
Formative	Formulating research topic, Formulating research design; Reaction, Isolation, Structure-determination techniques	Innovation; Purpose; Planning, preparation; Modification (of plans or ideas); Techniques, tools, methods; Facilitation, Power
Lingual	Reflective diaries, . . . reviewing the literature, Using secondary data, Collecting primary data (interviews, questionnaires), Writing and presenting project report.	Writing, discussing, interviewing, recording; Dissemination
Social	Negotiating access	Researcher-researched relationship and co-construction of data; errors of collusion Team-working, networking, community; Reputation (also pistic); Professional bodies; Peer review; Consensus and conflict
Economic		Managing research resources (time, funds, skills, effort); Paper length limits, Patience (treated as a resource)
Aesthetic		Harmonizing rationalities; Situating research in scholarly context; Applicability; Taking time for reflection
Juridical	“Research ethics”	Accuracy, completeness; Honesty; Democracy
Ethical		Self-critique; Transparency, openness; Discussion of limitations
Pistic/Faith		Reliance on prior theory, assumptions, etc.; Presuppositions; Suspicion thereof; Working against denial

From Column 2, it appears that the standard texts on research methods cited at the start may be overly narrow in which aspects they discuss (though Saunders et al. (2012) do discuss some wider aspects in their text).

Good research will function well in all aspects, whereas dysfunction in any aspect might jeopardise the success of research, especially in the long term (the *Shalom Principle* §4–3.7). An awareness of how every aspect is important in research activity can guard against common errors, such as the economic emphasis on funding may be seen in its context, so that it no longer drives research in inappropriate ways and yet recognises its rightful place. Such an aspectual understanding of research activity might offer better criteria for evaluating the quality of research carried out in institutions; for example, which aspectual issues does the UK Research Excellence Framework recognise and which does it ignore?

*Research opportunity: research methods.* Explore the multi-aspectual nature of research and research methods in each field.

However, for full success in research we must take account of the hidden aspects, on which some in Column 3 verge.

#### **10–4. Some Less-Obvious Aspects of Research Activity**

Much that is important in research activity is taken for granted, yet it either contributes to success of the research or jeopardises it. This section discusses what many people in my experience have been saying privately, piece by piece, and brings some of them together, categorised by aspect. The issues discussed are encountered in the everyday experience of research, but at every level, from the individual researcher to their group and institution, to society. It offers an exemplar (paradigm) for how readers might find it useful to discuss others they encounter.

The chapter opened with “politics, passion and dedication”. For example, see Walden University’s online article that covers various hidden issues (Walden 2010). Under the heading of “choosing the right topic”, among the more obvious tips, they advise “make sure the topic will hold your interest”, “develop a doable topic”, “you can’t change the world with one dissertation”, “let yourself shift gears”, “fine tune your topic based on input from others”. Other tips include, for example, “don’t waste your money”, “leverage the power of a network”, “don’t be afraid to reach out”, “persevere”, “follow your passion and purpose”, “reward yourself”, “ask for help”.

This raises questions, such as “Why is each important?” and “Are there others not mentioned in their lists?”

In answer, Dooyeweerd’s suite of aspects offers itself, since it has wide coverage of the normativities found in everyday experience and the laws that express them (§4–3.7, Chapter 9). Examining each aspect helps not only to account for such issues but also, with imagination, to think of others. We

will consider the pistic to social aspects separately and then the early aspects together. By starting with the pistic aspect, we will see the retrocipatory influence that later aspects have on earlier ones.

The discussions that follow contain few citations. This is partly because many come partly from my own observations over the past 50 years, and partly because the issues discussed are seldom discussed. I cannot claim full verity, because I have not carried out careful research about them, but I offer them as stimulants to further discussion and also to demonstrate how an aspectual view can bring out issues that might not usually be discussed.

Readers will find some Walden issues in what follows, but aspectual consideration of the rest is left to readers, as an exercise.

#### *10-4.1 Less-Obvious Pistic Functioning in Research*

There are several ways in which the pistic aspect is important in research, beyond the obvious ones mentioned earlier. Refer to §9-1.15.

One of these concerns the meaningfulness or value of doing research in general: What's the point? Having a positive view of this will motivate the researcher ("passion"), and a negative, demotivate. Motivation and a sense of meaningfulness, as a pistic issue, affects almost all other functioning. Pistic motivation refers not primarily to the purpose or aim, but to the wider issue of "What does this research contribute to, and is meaningful in, the body of knowledge?" or even "Why do I/we research?"

An important motivator is religious or ideological beliefs. Johannes Kepler's motivation for his astronomy research was:

I was merely thinking God's thoughts after him. Since we astronomers are priests of the highest God in regard to the book of nature, it benefits us to be thoughtful, not of the glory of our minds, but rather, above all else, of the glory of God.

Similarly, much Marxist, Feminist and Queer research is motivated by ideology. Religious or ideological belief inspires the individual researcher with direction and perseverance. What motivates a society to take research in a particular direction is their 'ideology' as rooted in the prevailing ("religious") ground-motive (§5-2.3, §6-3.6).

Where such beliefs are declared openly, as both the socio-critical approach and Dooyeweerd demand, dialogue can be opened up (as long as religious/ideological beliefs are not imposed on research), but too often their effect is masked and dialogue closes down. This is especially so with the secularist view that pervades much society, robbing our bodies of knowledge of benefit from religious perspectives (§5-2.4). Dooyeweerd's notion of Ground-Idea was designed to assist in opening up such dialogue (§7-3).

Pistic functioning can take other forms, both personal and social, both positive and negative.

Commitment is pistic—but this takes several forms, directed to several things, for good or ill. It is pistic commitment to their research topic that keeps a researcher persevering until they find a solution. It is pistic commitment to quality of research that inspires them to persevere until they get something right. Yet it is also pistic commitment that makes a researcher stubborn, holding onto theories (beliefs) regardless of evidence to the contrary. The difference is found not in the pistic but the ethical aspect, of self-giving versus self-protection.

Loyalty is pistic—to colleagues, institution, topic and especially to the research project and to the good of society and world. Albert Einstein is reputed to have refused to follow a research idea because of the harm that might come from it. Loyalty is crucial in most research projects since, when a key person leaves, the project often fails. The 2014 British Research Excellence Framework encouraged poaching of researchers by institutions from each other, which, I believe, devastated much research activity, so the 2021 Framework has changed its rules to discourage poaching.

Idolatry is pistic, negatively. When researchers grumble about their institution (university?) treating itself as the highest good and themselves as mere pawns, idolatry might lie at the root—idolatry of the institution. “Politics” in research is often motivated by idolatry and undue commitment, usually tacitly held. More widely, society’s idols have widespread deleterious impact on humanity’s mandate to research (§1–2.1), for example the monetization of research is a societal idolatry centred on the economic aspect.

At the interface between the personal and social is courage: courage to try new things or follow new ideas that are not fashionable, or courage to withstand pressure from peers, institutions or society. However, there is a difference between courageously following a new good idea and being over-keen to undermine established ideas (an idolatry of criticality for its own sake). The difference between them is not explainable in the pistic aspect but from the ethical, in that true courage involves willingness to sacrifice rather than defend one’s own.

Thus, in these ways, and others, the pistic aspect can be important in the activity of research, though it is seldom discussed as such. Its impact is mediated via its retrocipatory effect on our functioning in other aspects. The solution to problems therein is not to be found in those aspects but in the pistic. And conversely . . .

#### *10–4.2 Less-Obvious Ethical Aspects in the Activity of Research*

To my shame, I recall, after I had critiqued a paper, being told, “They were devastated by your criticism!” Critique should never devastate. By contrast, I recall a critique of one of my early papers, in which I had shown an immature grasp of the topic, which showed mercy and was encouraging—and as a result I worked hard to produce a good paper. Both were critiques that could inform the papers; they differed in the ethical aspect, which mandates an attitude of self-giving love, rather than indifference or selfishness. It is a

crucial aspect of the culture of research, pervading it in many hidden ways, some of which are discussed here.

*Note on terminology: ethicality.* To many, “ethical” means what *ought* to occur, which is juridical. Do Dooyeweerd, and here, “ethical” is about going beyond what is due; it is about goodness. Refer to §9–1.14.

The ethical aspect norms a *generous attitude* towards colleagues (and towards groups, institutions, society, world and topic) being willing to make sacrifices for the good of others. Fortunately, generosity is generally accepted in most research communities at least as an ideal. We are expected to share our findings and open ourselves to critique, so that refinement can occur. A strong research group should not seek primarily to win plaudits, but to gift good researchers to others, so all may flourish.

*Trust* is an ethical issue of self-giving, of willingness to be vulnerable. It is different from, though closely linked with, the pistic act of relying on and believing something.

Without trust there can be only my truth, the truth of my personal life and its experiences, and so only subjectivism. I must trust others if my grasp of truth is to be more than a merely subjective whim; I must trust my culture if I am to learn which resonances to trust.

(Puddefoot 1999, 70)

The best researchers rejoice as much in advances by others as by themselves. It is often the ethical aspect that governs how we respond to thinkers with different underlying beliefs to ours, either negatively as competitors or positively to engage meaningfully. *Scientific modesty* has long been recognised as a virtue—the willingness to consider oneself wrong, to question one’s own ideas and approaches, and to be open to the unexpected, as in Klein & Myers’ (1999) principle of dialogical research which calls researchers to be willing to revise ideas or even abandon those once held dear.

Modesty is a corollary of theoretical thought not being able to capture the full diversity and coherence of reality.

Real scientific modesty, however, should begin with a clear distinction between theoretical abstractions and the integral structures of human experience. The attempt to reduce the latter to the former is no real scientific modesty. On the contrary, it testifies to a hidden *hybris*, which . . . identifies this theoretical construction with the whole of empirical reality.

(NC,III, 26)

Unfortunately, in some fields, modesty and openness have been replaced by trying to impose or bolster one’s own ideas. My experience of the social sciences has been of supporters of each theorist trying to defend rather than

critique them, with the result that only external critique is offered—and ignored. Such attitudes spread throughout the community, as each begins to defend their own ideas. Socio-critical theory itself seems to me to lack much understanding of the ethical aspect, replacing it by its opposite, power (see §7–4.1).

A highly destructive hidden influence of ethical dysfunction is the *competitive attitude* that pervades the global research community: every person or institution follows their own self-interest. The belief that competitiveness is valid is not a truth but pistic commitment. Though competition in research can sometimes stimulate creativity, in being a motivation that overcomes laziness or sloppiness (negative formative functioning), when competitiveness is promoted without qualification, it tends to bring even greater harm. Deutsch's (2000) classic work on competitiveness and cooperation differentiates between constructive and destructive competition. Giving the example of tennis, "In constructive competition, winners see to it that losers are better off, or at least not worse off than they were before the competition." Research, however, is not sport, and does not always have winners and losers. Instead, a self-centred, self-defending, competitive attitude harms all parties, while a self-giving attitude (the social aspectual analogy of which is cooperation) brings benefit throughout the research community.

Modesty, openness, generosity, trust or their opposites pervade all other aspects of research activity, such as our style of writing, our social relations, and our attitude to funding, through retrocipating other aspectual functioning. Though Deutsch initially seems to try to reduce competitiveness to psychological factors, they are influenced by "substitutability", "attitudes" and "inducibility", which may be understood as social, ethical and juridical retrocipations on psychical functioning. A concrete example of this retrocipation is the considerable time and human effort wasted because of the competitive nature of funding systems. Of the 550 person-years' effort expended on grant applications in one funding round in Australia, only 21% were successful, implying that over 430 person-years were wasted (Herbert et al. 2013). In 2016 in the UK, only 12% of applications to the Economic and Social Science Research Council were successful.

This raises the question of whether there is a more appropriate means of procuring the benefits that research should bring (contributing to our bodies of knowledge). One answer comes from the pistic aspect—commitment to something of ultimate meaningfulness, augmented with a juridical norm of due.

### **10–4.3 *Less-Obvious Juridical Functioning in Research***

For the juridical aspect, refer to §9–1.13.

The mandate of research is to contribute theoretical understanding to humanity's bodies of knowledge. "Mandate" is a juridico-pistic word, pistic as a meaningfulness beyond us to which we commit ourselves, and juridical as a responsibility. The juridical aspect highlights responsibility to bodies of

knowledge, which has already been implied in previous chapters (“on which it is reasonable to rely” is a juridical issue). It is why research bias (§7–4.2) is a problem, and why standard texts emphasise carefulness, studiousness, criticality and exhaustiveness in research activity. Such issues, widely recognised, are not discussed here, except for one point, below.

The juridical aspect also highlights other responsibilities: to world and society, to those being researched, to colleagues and employers, to family.

Responsibility to world and society requires awareness of how research, in both its content and activity, might affect the world and society. Society includes not just the society in which researchers function (usually affluent, liberal society), but also that of those studied. This calls for respect for their societal beliefs, attitudes and structures, not treat them as objects of curiosity, as some early anthropologists did (see §2–2.2). Anthropology has learned its lesson; social, psychological and biological sciences might yet need to do so. The latter concerns responsibility to animals, plants and ecosystems, and may be extended to responsibility for planet and climate change (see discussion of this in Basden (2018a, 169, 264–5, 290–2)).

Responsibility to individuals being researched is often seen in terms of “research ethics” and is why ethical approval is needed before empirical study can begin. Though widely recognised, what is hidden about this is that it is not of the ethical (attitudinal) aspect but the juridical: It focuses on issues like consent and the privacy of data.

Responsibility to colleagues and employers takes a similar form to that in most organisational life. Again, a widely recognised issue, its hidden side is when responsibility to institution becomes over-played and used as an excuse for dysfunction in other aspects; the institution has become an idol (§10–4.1), so is it time to de-emphasise its claim on our responsibilities?

What is perhaps less discussed is responsibility to family. In Western cultures, this is often reduced to work-life balance, but this obfuscates the issue. As such, and especially in an individualistic culture, the focus can subtly shift to finding sufficient entertainment and social activity for oneself, and it becomes self-centred (ethical dysfunction). Among researchers with families, however, it is a responsibility to others—spouses and children—who are affected by the pressures of research life on the researcher. For international students from cultures like sub-Saharan Africa, the Middle East and India, the family takes on more importance than it does in individualistic cultures, and looking after families takes up considerable time. This is time that the young, unattached individuals from Western cultures can spend on extra reading and paper-writing to deepen their research and build their *curricula vitae*, for better careers, but these are denied to those with family commitments. There are several juridical problems here:

- Is not this discrimination against researchers with family commitments, especially international students . . .
- . . . especially against women and even more so for single mothers?
- Is it not an injustice to children?

- Some colleagues have remarked, “A PhD demands sacrifice”—is it right to impose those sacrifices on spouse and children too?

There is also a concern about responsibility to our bodies of knowledge, especially in the fields of social science and the post-social fields.

- Far fewer contributions are made to our bodies of knowledge from those with family-centred perspectives on life and reality than from those with individualistic perspectives. Does not this result in a gross, pernicious and long-standing bias in bodies of knowledge towards individualism and away from families?

*Does not this make entire bodies of knowledge in the social, economic, artistic and legal sciences suspect?* It is not enough to merely study perspectives, as a distal object of study, but for perspectives to be effective, they must be indwelt by researchers (§2–2.2). In my view, we need to install juridical structures that encourage rather than discourage family-friendly PhDs, such as defining PhD programmes midway between full- and part-time, and also attitudinal and social structures too. A similar issue arises for those with dyslexia and Asperger’s syndrome; see §10–4.7.

Harmonising these and other responsibilities requires good aesthetic functioning.

#### **10–4.4 *Less-Obvious Aesthetic Functioning in the Activity of Research***

The harmony of rationalities at the core of research involves aesthetic functioning; it has been discussed in §6–3.4 and §7–1.3. Here, other aesthetic issues are discussed. Research should be satisfying for all, enjoyable, interesting, exciting and exhibit a holism or harmony; refer to §9–1.12. There is a thrill in discovery and in developing new ideas. These things are seldom discussed but make a large difference to the efficiency and quality of research.

However, in seeking excitement, it is tempting to forget responsibility and generosity; the aesthetic aspect of research should itself harmonise with other aspects. Research is more satisfying when its various components, elements and even aspects exhibit a harmony among them that is more than just necessary for functional purposes, and even more so when it exhibits harmony with the world outside itself as discussed in Chapter 2.

Dysfunction in the aesthetic aspect tends to fragment research and make it less satisfying for at least some. This ranges from fragmented rationalities to attitudes like intellectual elitism. Intellectual elitism is partly pistic (elevated view of oneself) and ethical (self-centredness) but may be seen primarily as a kind of snobbery, which undermines the harmony of research in an entire field.

The widely cited paper, Klein & Myers (1999), which was discussed in §7–2.1, exemplifies multi-layered harmony. It fulfils a need (principles for what had been ad hoc). It links each principle with research and literature



that illustrate it. It harmonises with philosophy (the hermeneutic cycle). It also harmonises with what is of central importance to researchers' actual experience, in that its principles encourage and challenge the very attitude of researchers. It is extremely well written, with each part linked with the rest and necessary to the overall theme. Aesthetics are enhanced when one is economic rather than wasteful; part of the satisfaction of Klein & Myers' (1999) paper is that it does not waste words. The aesthetic aspect depends on the economic.

#### *10-4.5 Less-Obvious Economic Functioning in Research*

Many economic issues in research are obvious. The following contains some examples of how we might think about hidden issues that are meaningful in the economic aspect. Refer to §9-1.11.

Frugality, often seen as to be avoided, is seen by Dooyeweerd as the beneficial kernel meaningfulness of the economic aspect—as long as it is not contaminated with the juridical dysfunction of unjust deprivation. The economic aspect often brings good in other aspects by retro- and anticipation. It stimulates creativity and innovation (aesthetic, formative). Being forced by editors to reduce word-count usually improves papers (lingual).

Research budgets are an obvious economic issue; less obvious is budget inflation in grant applications, which deprives other projects of funding. It may be driven by (a) fear of running out of resources and (b) all too often, our worth as researchers is 'measured' by managers in terms of how much funding we seek and attract, and, as a result, funding is sought for activities that are not fully necessary for research. We can understand the harm these cause, not from the economic aspect, but from the ethical and pistic respectively.

Patience is sometimes treated as a resource that runs out—but is it? Is it not rather like a muscle that is exercised and becomes stronger with use? An answer may be found in the ethical aspect: When thinking of our own patience, treat it as a muscle and just remain patient, but when thinking of the other's patience, treat it like a limited resource and do not over-tax it.

#### *10-4.6 Less-Obvious Social Functioning in Research*

Issues like the social nature of peer review, cliques, jealousies and the relationship of researchers to their families are often complained about privately but seldom discussed openly and seriously, yet their impact on research can be significant. These are the hidden social functioning of research; refer to §9-1.10.

Peer review, though many try to make it dispassionate, tends to involve networks of colleagues, which exert unseen bias on which research is supported or disseminated, as do cliques in conferences and groupthink in committees. Personal rivalries or jealousies can prevent research coming to light or bearing fruit. Conversely, good personal relationships can encourage people to good ideas and quality research.

It is common to view such issues through the lenses of either power or psychology. Power distorts the picture (see §7–4.1) and psychology cannot make the fine distinctions necessary. Rather than trying to understand social issues via other aspects (formative-ethical or psychic), it is better to understand them directly as social issues. Dooyeweerd (1986) developed a theory of social institutions, for which he differentiated types, the differences between which might help in understanding some hidden social aspects of research, especially concerning power relationships.

He differentiated intracommunal, intercommunal and interpersonal relationships, exhibited in research, respectively, in the need to make a cohesive team (and hence often a formal structure), in the interests of the various external stakeholders, and in the social friendships of participants. In intercommunal and interpersonal relationships, power relationships are inappropriate. They are valid only in intracommunal relationships, that is within a true social institution in which relationships of “authority and subordination” (Kalsbeek 1975, 199–200) pertain. Whereas, under the Nature-Freedom ground-motive, authority and subordination are seen as limiting freedom, to Dooyeweerd they are enabling and should have no negative connotation, because they are tempered by the juridical and ethical aspects.

The issue of *family-friendly PhDs*, introduced above, is not just a juridical issue but also a social one. It is a difference in cultural expectations and in taken-for-granted agreements about what is important in each community; it is about respect. Part of the solution is juridical, and even pistic (vision of what is important) but part is social: to respect the culture in which families are important and install social structures for support of families as a whole, alongside policy changes.

#### **10–4.7 *Less-Obvious Lingual, Formative and Analytic Functioning in Research***

Much of the lingual (§9–1.9), formative (§9–1.8) and analytic (§9–1.7) aspects of research activity are well discussed (see Column 2 in Table 10.1), so only a few points are picked out here, as exemplars.

Though universities provide guidance on how to read academic literature and to write papers, the *ability* to do these is taken for granted. Yet those with dyslexia and Asperger’s syndrome, for instance, have difficulty with these; this is a hidden lingual issue. Such people find it difficult to properly understand what others are saying or writing, because some dyslexics find the words themselves difficult while Aspergics find they cannot sift information in the way neurotypicals do, but must first take every detail into account before gradually working out what is important. In speaking and writing, some dyslexics find they cannot express their ideas properly, while some Aspergics write too much detail because they do not understand what others expect of them. This results in what they say in conversation, and what they write in papers or funding proposals, being rejected and ignored.

The impact on research is not unlike those from researchers having family responsibilities, who are less able to read widely and publish than those without. Similar juridical issues arise: discrimination and robbing our bodies of knowledge of the contributions of the unique and important perspectives that such people might bring (§10–4.3).

Several lingual dysfunctions are seldom discussed or taken into account, and hence remain hidden. Example: Deceit is a lingual issue that is seldom discussed. While deliberate falsehood is rare, equivocation, etc., occurs more often than most expect; the researcher wants to get a message across and spins what is said towards that aim.

Today, most research is carried out in discrete *research projects*, with a defined purpose, aims and objectives, against which their outcomes are judged. This is a hidden assumption that is meaningful in the formative aspect, but it often has overriding importance. That the formative is not the primary aspect to guide research should enable us to question this assumption. There are several implications. (1) Research may also be carried out as an on-going process, not just in projects, as in the early days of science (but then it relied on having the leisure afforded by wealth). Today, officially, on-going research is among the duties of academic faculty, but other pressures today often prevent it, and management tends to measure research effectiveness by amount of project funding. (2) While projects benefit from planning, plans of research projects should always be open to modification because research, by its nature, is a search or exploration of what is not yet known, rather than some goal to achieve. Much research takes unexpected directions and some comes up with unexpected results. (3) Since the primary mandate of research is meaningful in the analytic aspect (finding out to yield theoretical knowledge), the convention that research projects state an aim might not be appropriate because aims are formative-aspect concepts. Instead, it may be preferable for research projects to be defined by a main research question that the research seeks to answer.

#### 10–4.8 *The Early Aspectual Functioning in Research*

Consider the following. The kinematic aspect tells us that research is dynamic and we should beware of treating it statically. The spatial aspect reminds us of areas of study—but also that participants in research projects might be scattered across the globe. The quantitative aspect is used, not only to keep count of things, but often to measure things like researcher worth (§10–4.5) or usefulness (§3–5.2).

The role of the early aspects in research activity is often hidden in two ways. One is that early aspects of the concrete research activity are often taken for granted, except when problems occur. Spatial distance might hinder collaboration. The concrete physical aspect of research includes electric power and bearing the weight of heavy equipment. The concrete organic aspect of research includes health of researchers and participants. The concrete psychic aspect concerns not only seeing, hearing and motor activity,

which is obvious especially in the natural sciences, but mental health of researchers and their families.

The other way is that early aspects are often hidden in analogies in later aspects. “Area of study” is a spatial analogy in the analytic, connoting extendedness. The physical aspect offers notions of causality and force, for which analogies exist in every aspect, as aspectual repercussion. Organic analogies include health and growth of research. Analogies can stimulate fresh ideas but, as mentioned in §3–2.4.3, they are dangerous if we let the laws of the analogous aspect encroach too far on our reasoning.

Measurement also depends on analogy. Whenever it is meaningful to say “more” or “less” of a property (e.g. worth, usefulness), we can transduce it into the quantitative aspect. But, again, we must not allow quantitative laws to encroach too far.

Though some of these early-aspect issues appear trivial or obvious, what aspectual analysis of research activity does is to give them a place in our thoughts so that we can ensure they are not forgotten and are treated properly.

### **10–5. A Case Study: Activities in a Knowledge Project**

Though Dooyeweerd’s philosophy has been used in the activities of research, as discussed in the next chapter, no overall study has yet been made of this. However, Gareth Jones (Jones & Basden 2004; Jones 2007) discusses extensively his use of Dooyeweerd’s philosophy in the activities of developing knowledge based systems (KBS). This is an example of design research.

KBSs, when used and run, advise or stimulate human users in thinking about their situations. In Jones’ (2007) case, the situations were sustainability policy in a local authority in the United Kingdom, for which he built nine KBSs.

Jones sees a KBS as a ‘theory’, since the knowledge encapsulated within it is intended to be generally applicable and that on which it is reasonable to rely. Therefore, development of KBSs is not unlike research, in that it involves gathering knowledge of a topic, analysing it to determine the relevant generic knowledge and then expressing that knowledge. A major difference between research and KBS development is that the generic knowledge in a KBS must be precisely enough known to be a kind of computer program.

This section discusses Jones’ experience using Dooyeweerd to guide his activity. His working in a new paradigm is discussed in §11–3.3, his method of knowledge elicitation, which resembles data collection, is discussed in §11–6.6, and his suggestions for refining Dooyeweerd’s philosophy are discussed in §11–4.5 and §9–1.12.

Jones (2007) discusses his experience of using Dooyeweerd’s philosophy in ten activities of the development process, comparing them with two published methods. Most are relevant for research, in that, for example, the KBS itself equates to the findings of the research, the knowledge elicited, to the data collected and some literature, and the researcher to the KBS developer.

*Managing stakeholder commitment* (identifying stakeholders who need to be involved or considered, eliciting their concerns, and gaining commitment, taking account of tacit commitments). In research: supervisors, colleagues, others in the field, those who or which might be affected by application of findings—maybe replace “stakeholders” by “authors” (§11–8.1). Jones used aspects to identify possible stakeholders, those to whom the KBS is meaningful in some way) and their commitments (e.g. “to develop policy”, formative; “to protect ecological systems”, juridical-organic-psychical). He used the “normative” aspects to explore explicit and tacit stakeholder commitments and promote consensus around not only project goals but also the use of Dooyeweerd in the project. Using Dooyeweerd’s aspects, he identified commitments that are usually hidden, (a) because they transcend management and business issues, such as social justice, ecological protection; (b) because they are tacit, such as declaring all hidden agendas to promote trust.

*Conceptualising problematic processes* (that could be supported by the KBS). In research: properly understanding the realities of the potential situations to which research findings are to be applied (“everyday experience”: §2–6.1), including aspects hidden by differences of expertise and culture. With two experts, Jones investigated four multi-aspectual subject-object relations between developer, users and the artefact, separating out what challenges each by aspect. Aspectual analysis, teasing out ambiguous statements, revealed 20 issues (a “Very thorough analysis” (p. 170)).

*Identifying potential KBS uses*. In research: specific potential applications and contributions. Stakeholders often cannot clearly identify what the KBS should do. Jones considered potential uses of the KBS in clarifying, forming and referring (analytic, formative, lingual functioning with the KBS as prior object, §4–3.9) in relation to the 20 issues.

*Choosing a set of feasible and beneficial uses*. Evaluating the benefit and feasibility of each potential use, and then selecting therefrom, developing a prototype KBS, testing it with participants. In research: analysing the actual kinds of benefit that application might bring, given the capabilities of researchers and available source data. Jones used the normativity inherent in each aspect to clarify kinds of benefit; those uses with greatest diversity of aspectual benefits were expected to deliver greatest opening potential. Many unanticipated benefits were unearthed. Feasibility was also assessed by aspect, such as capability of development team (formative), ability of stakeholders to work as a team (social)—several of which are discussed in §10–4. The expertise in sustainability was obscure so it was decided to see if Dooyeweerd’s aspects could be used in knowledge elicitation to clarify relevant knowledge; see below.

*Identifying stakeholders.* Four kinds of stakeholder: developers and users of sustainability policy, developers and users of KBS. In research, three kinds: researchers, those who apply the findings and those affected thereby. In each kind, Jones used aspects to differentiate stakeholder types (e.g. social aspect, respectively: KBS team, community groups, departments, citizens). Using Dooyeweerd's notion of enkapsis and theory of social institutions (§4–3.5), he identified numerous stakeholder associations. The breadth of aspects of Dooyeweerd's suite ensures that commonly overlooked stakeholders were included, such as plants, animals, charities (organic, psychic, ethical).

*Eliciting knowledge* (from which to construct the KBS). In research: both the ideas in the literature and the data collected (abstracted) from situations, from which findings are inferred. The knowledge elicitation method, from both literary sources and interviewing experts, “needed to handle the diversity and complexity of the normative activity of sustainable UDP policy development” (p. 215) and thus be non-reductive. Dooyeweerd's suite of aspects fulfilled this requirement, based on the Dooyeweerdian-Clouserian understanding of abstraction (§6–3.2) along with the normative direction that aspects give (§4–3.7). Jones found this elicited tacit and deep knowledge as well as explicit.

*Handling antithetical knowledge.* Most knowledge that experts hold expresses the prevailing worldviews (§5–2.1), which can be antithetical to the knowledge required for sustainability. In research: the best research takes a critical attitude to prevailing presuppositions, without acquiescence or antagonism. Jones shows how both can be avoided by an understanding of aspectual normativity, instead of either rejection or mere ‘balancing’. Jones' example is free-market economics which, he argues, undermines sustainability by encouraging waste and exploitation, going against the economic aspectual norm of frugality.

*Choosing inference goals* (the main meaningful inferences the KBS will make about the user's situation, each time it is run). In research: research questions and final theoretical findings. Jones suggests using aspects directly as inference goals (examples in the housing KBS: “The Council's commitment and vision promotes sustainable housing development”, pistis; “The Council identifies all important sustainability issues”, analytic). Experts found this provided “an appropriate measure of sustainability” that was easy to understand and a window onto the knowledge base. Research questions can be usefully clarified and refined by orientation to aspects.

*Crafting texts* (questions, results, etc. displayed by the KBS when it is run). In research: questions in questionnaires and during interviews. These should be understandable and not misleading. Jones discusses ten issues, in most of which he found that aspects and inter-aspect

analogies (§3–2.4.3) helped compose the text. For example, he considered each aspect of the effectiveness of text (e.g. psychic visibility, analytic differentiation of what is important to convey, aesthetic integration of texts into wider context). Standardising verbs by aspect (e.g. “identify” for analytic verb) helped to simplify and clarify wording. Feedback from the experts showed this approach to have worked very well. See §11–6.1 for questionnaire design.

*Amending the prototype system.* During trials of the prototype KBSs, users made comments, which were analysed to improve them. In research: responses to unexpected difficulties that demand the research be rethought. Jones used Dooyeweerd’s aspects to separate out kinds of problem or improvement, such as concerning calculations (quantitative) or helping users make important decisions (analytic). Doing this helped identify not only improvements but also the root causes of problems.

Common to all these is that his Dooyeweerdian approach proved easy to apply, rapid, and comprehensive in coverage, lending clarity, and able to uncover possibilities that are not usually considered. The portions of Dooyeweerd’s philosophy that Jones found most useful are the suite of aspects, subject-object relationships, functioning (especially intentionality), and enkapsis. Dooyeweerd’s idea of qualifying and founding functions (§4–3.4) was not particularly helpful.

This was an impressive piece of work, which shows the immense power that Dooyeweerd’s philosophy offers, in practice, when wielded by someone who understands it well. In Jones’ research, Dooyeweerd pervaded everything, both the management of research activities and the undertaking of those activities in detail. There was commitment to Dooyeweerd as whole view, just as there is in socio-critical research, to Foucault, Bourdieu, etc. Jones may be seen as empirically testing Dooyeweerd’s philosophy in this role. In Chapter 11, the role of Dooyeweerd in individual stages of research is discussed.

## 10–6. Conclusions

This chapter offers insights into the carrying out of research. It began with the general challenge of how to engage with thought based on a different approach, of which Dooyeweerd’s is an example (LACE: listen, affirm, critique, enrich). Most of the rest of the chapter has been devoted to discussing aspects of the everyday experience of research activity, treated as multi-aspectual functioning. It finishes with a discussion of a case study using Dooyeweerd to guide activities similar to those found in research.

Treating research as multi-aspectual functioning and as everyday experience has painted a rich but understandable picture of the plethora of issues that inhabit research activity, which helps clarify in what ways each issue is important. Some issues (e.g. mandate) are meaningful in a couple of aspects.



Relationships among issues may be understood as inter-aspect dependency and analogy.

The picture is made possible because each aspect offers a space of meaningfulness in which issues may be placed. That aspects pertain, whether or not they are recognised and discussed, reveals hidden issues alongside those already widely discussed. This impels us to carefully consider every aspect.

With each aspect defining a different norm, the issues are no longer just descriptive; they offer guidance. Each aspectual norm is important for good research, and if there is dysfunction in any aspect then the quality, effectiveness or efficiency of research might suffer. This has allowed us to consider some issues quite starkly—such as family-friendly research. Research ethics has been extended beyond the normal juridical issues of privacy and consent into attitudes and responsibility towards many things. Being aware of how each aspect impacts on others gives pointers to increasing the efficiency and effectiveness of research.

In this way, the complex activity that is research may be more effectively managed and carried out, as the case study demonstrates. The discussion has interwoven all levels—the individual researcher, the group, the institution and society—just as they are interwoven in real life.

This chapter offers general practical guidance for carrying out research. Though it does not list all issues, it demonstrates how issues may be recognised, clarified, affirmed as important and linked with others, by reference to Dooyeweerd's aspects. Researchers will encounter many others in the everyday experience that is research and, with this approach, might better consider the importance of each.

Chapter 11 offers specific guidance on some of the more visible activities of research, by discussing experience of using Dooyeweerd's philosophy at each stage.



# 11 Experience of Research Using Dooyeweerd

This chapter reflects on actual experience of employing Dooyeweerd's philosophy in research. It draws on the adventures that a range of researchers have had with Dooyeweerd's philosophy in several fields, from a variety of countries and cultures in the Middle East, Africa, Europe, America, Australasia and Asia.

If the mandate of research is to help build bodies of theoretical knowledge that is generally applicable and on which it is reasonable to rely (§1–2.1), then what might be called a Dooyeweerdian approach to achieving this, as has been set out in the previous chapters, might be summarised as follows:

- Given that we consider research content, activity and application together rather than separately,
- and that research content is abstracted from the fullness of reality that we have called “everyday experience” (Chapter 2), which is meaningful diversity and coherence (Chapters 3 and 4), (and we may provisionally take Dooyeweerd's delineation of 15 aspects as set out in Chapter 9 as expressions thereof),
- and given that researchers are full human beings, so research activity has its own multi-aspectual everyday experience beyond the formal and logical, including hidden aspects (§2–6.2; Chapter 10), which together contribute to overall success (*shalom*: §4–3.7) of research,
- and given Dooyeweerd's approach of making meaningfulness the ground for all being (functioning), good and knowing (§4–3), so that ontology, methodology, axiology and epistemology intermingle (§5–1.1),
- and given that all philosophy and theoretical thinking is inescapably non-neutral (§2–3), being governed by ground-motives and standpoints of a religious character (Chapter 5), so that none may be considered

absolute truth (§6–1), though there is a truth or reality of which we may hope to gain some understanding (§6–4),

- and given that all theoretical thought involves *Gegenstand* focus on certain aspects of the world, by which data is abstracted, and to this data we apply multiple rationalities in order to generate findings as new knowledge to submit to the bodies of knowledge, and that the harmonising of those rationalities is our responsibility (§6–3, §7–1),
- and given that our findings are critiqued and refined by a community by reference to wider meaningfulness and its presupposed origin (§6–3.5),
- and given Dooyeweerd’s notion of Ground-Idea as a basis for critically understanding research philosophies, seeing fields and paradigms as centred on certain aspects, and encouraging dialogue between ideas (Chapters 7, 8),

then we are in a position to review how Dooyeweerd’s philosophy has actually been employed in research.

Section 11–1 outlines how Dooyeweerd’s philosophy might be useful at each stage of research. Section 11–2 reflects on experience of using Dooyeweerd to provide overviews of the researcher’s field and help in making sense of literature in the field. Section 11–3 discusses adventures with Dooyeweerd among paradigms and conceptual frameworks and Section 11–4, among concepts and ideas. Section 11–5 discusses the selection and justification of research methods. Section 11–6 discusses experience of using Dooyeweerd in data collection. Section 11–7 reviews experience of using Dooyeweerd in analysis of data that generates findings. Section 11–8 discusses a couple of gaps in the current experience.

### 11–1. Stages of Research Using Dooyeweerd

Each stage of a research project can benefit from Dooyeweerdian thought in different ways. Table 11.1 indicates which main portions of Dooyeweerd’s philosophy might be useful at each stage (Column 1). Column 2 shows which elements of Dooyeweerd’s notion of Ground-Idea (Chapter 7) are most relevant (W: world, R: rationalities, O: origin of meaningfulness). Column 3 sets out how understanding of, and reference to, Dooyeweerd’s notions of ground-motives, immanence-standpoint and aspects can assist researchers at that stage (Chapters 4, 5).

*Research opportunity: research stages.* These suggestions arise from observation, as included in this chapter. They require working out with critical discussion and refinement.

Table 11.1 Dooyeweerd's philosophy in each stage of research

<i>Research stage</i>	<i>Gl</i>	<i>Useful portions of Dooyeweerd's philosophy</i>
<b>Introduction:</b> Clarifying, justifying the topic and the main research question	W O	<b>Ground-motives:</b> Can reveal root of dialectical conflicts so as to avoid taking sides. <b>Aspects:</b> Understanding aspect kernels can reveal major gaps in field and clarify meaningfulness of the topic in its field to situate, clarify and justify the main research question.
<b>Literature Review:</b> Selecting and analysing literature, finding gaps	W O	<b>Immanence Standpoint:</b> Can reveal presuppositions as root of problems in fields, and of narrowing of focus. <b>Aspects:</b> Can help understand what motivates discourses in field and identify missing discourses and gaps in literature that need researching.
<b>Conceptual Framework:</b> Choosing, justifying paradigm and preparing CF for the research	R	<b>Immanence standpoint:</b> Moving from presupposition of existence to meaningfulness, towards everyday conception of things. <b>Aspects:</b> Kernel meaningfulness and inter-aspect relationships can clarify what is really important; Suite of aspects help prevent overlooking issues; Helps maintain axiology.
<b>Research Methods:</b> Choosing, justifying approach/methods to use in research	W R	<b>Aspects:</b> Aspectual rationalities can clarify reasoning and validity of methods, along with aspects of world. <b>Ground-motives:</b> To see beyond apparent incommensurability.
<b>Data collection and preparation</b>	R	<b>Aspects:</b> Data collection guided by aspects can ensure richer picture. Aspectual interpretation can reveal full range of meaningfulness in data ready for analysis, especially overlooked issues, by separating out confused issues.
<b>Discussion:</b> Analysing data to obtain findings to submit to the bodies of knowledge	R O	<b>Aspects:</b> Meaning-kernels systematise reasoning; Quantitative and qualitative aspectual analysis help to uncover hidden issues, classify issues and recognise values.
<b>Conclusion:</b> Overview, limitations, contributions, future work	W O	<b>Ground-motives:</b> Can help set the findings within extant ground-motives without adopting them. <b>Aspects:</b> Aspectual analysis of what is meaningful to community might help situate findings more generally and practically.

## 11–2. Understanding the Discourses and Literature of a Field With Dooyeweerd

The first two stages, introduction and literature review, provide an understanding of the field of research. Though each field might be defined by core aspects, as discussed in Chapter 8, to gain an overview of a field (including when writing research proposals) researchers must understand the diversity of discourses that range across the field and how they cohere around the

topic to be researched. This is also useful at the conclusion of the research, when discussing contributions the research might make.

The importance of diversity and coherence is the second of Dooyeweerd's starting-points, discussed in Chapter 3. This leads us to the importance of his third starting-point of meaningfulness, discussed in Chapter 4. The discourses each revolve around something its participants find meaningful, and the entire panoply of discourses, which forms a context for research, itself exists and occurs in the 'ocean' of meaningfulness (§4–3.10).

Dooyeweerd's first starting-point, of respecting everyday experience (Chapter 2), raises two questions. How well does the literature address itself to the full reality of the field? And in what ways has the development of discourses to date been influenced by the everyday functioning (lifeworld) of the research community, especially in commitments, attitudes and responsibility?

It is with these starting-points that those who have adventured with Dooyeweerd's philosophy have found ways of gaining an understanding of the discourses in a field to fit them into a coherent picture, encourage inter-discourse dialogue, and find gaps that might make new research meaningful. Eriksson offers a method based on ground-motives (§11–2.1). Joneidy offers a method for systematic study of seminal papers (§11–2.2), which would be useful in a literature review. Breems has developed a method for acquiring an intuitive, immediate overview of the discourses in a field, which can be useful, when research starts, to reveal the gaps that any proposed research might fill (§11–2.4). Between them (§11–2.3) sit a couple of examples of how to make sense of diverse collections of papers.

### *11–2.1 Methods Involving Ground-Motives*

As discussed in Section 5–2.4, Eriksson (2003) used Dooyeweerd's idea of ground-motives to reveal the roots of the conflicts among systems thinking approaches, to show there is space for multi-modal systems thinking (MMST, §11–3.2). Eriksson shows how extant approaches adhere to poles of the Nature-Freedom ground-motive and argues that MMST escapes this and can thus take better account of the richness of social reality.

Such an exercise gives a useful broad-brush overview of a field and its discourses, especially as a similar history may be found in many fields because of the malign influence of a dialectical ground-motive (§5–2.4). Hartley finds similarly in mathematics; see §11–3.1.

A ground-motive analysis is, however, seldom sufficient to fully justify a particular piece of research. A richer picture of the discourses in a field emerges when we use Dooyeweerd's aspects, as discussed in the remainder of this section.

### *11–2.2 Joneidy's Analysis of Seminal Papers*

From time to time seminal papers emerge, which begin new discourses that might introduce new paradigms or variants thereof. How may we judge their contribution and fit them into an overall picture? How can we understand

the relationships among them? How should we think about those that are not yet widely recognised?

Joneidy (2015) carried out an investigation of discourses around information systems use, analysing seven seminal papers. By an aspectual analysis method of excerpts from the papers, which is described in §11–7.2, he revealed what motivated the publication of each paper, in terms of aspects that made their motivation meaningful.

He found that in most papers two aspects are important in their motivation. Comparing the aspect-pairs across the papers can throw light on the discourse structure of the field. Unique pairs indicate a validly distinct paradigm (§8–2.2) and discourse, even if the paper is not widely cited. Sharing one aspect might indicate overlapping interests, and thus potential for immediate mutual understanding and dialogue. Sharing both aspects suggests papers are in the same discourse. Missing aspects might indicate discourses yet to emerge. Acknowledging aspectual diversity can encourage mutual respect among authors, paving the way to dialogue.

Joneidy has applied this technique in the fields of information systems use and healthcare informatics (Joneidy & Basden 2018; Joneidy & Burke 2018). A similar analysis is described in §11–4.4. He believes such analysis can facilitate assessing how the field is progressing, inspiring new researchers and structuring textbooks. It might also offer a systematic method for the literature analysis stages in research.

### 11–2.3 *Understanding Collections of Papers*

A decade before I discovered Dooyeweerd, I was involved in the fields of artificial intelligence, knowledge representation and computer cognition. In 2008, I joined Maria Kutar in a discussion of cognitive models, which resulted in an edited collection of 17 papers under the title *Advances in Cognitive Systems* (Nefti & Gray 2010). Maria and I contributed the final chapter, about which we believed,

A final chapter of a collection like this, however, should not just review the others but should, if possible, suggest new and interesting ways forward that are, perhaps unknowingly, already implied in the other chapters.

(Basden & Kutar 2010, 466)

The collection revealed such diversity that it was difficult to find a useful theme from within the two traditionally accepted paradigms of cognition as thinking (Descartes) or as interaction with the world (Heidegger). This dialectic had been well rehearsed for decades and tended to divide rather than unite. We opted for a third approach, based on Dooyeweerd's aspects, which bridges both and might bring the chapters together.

To achieve this, we identified the key issues that interest each chapter and, then, which aspects most made that issue meaningful, usually a pair of aspects for each chapter. For example, Chapter 7 is about strategic versus

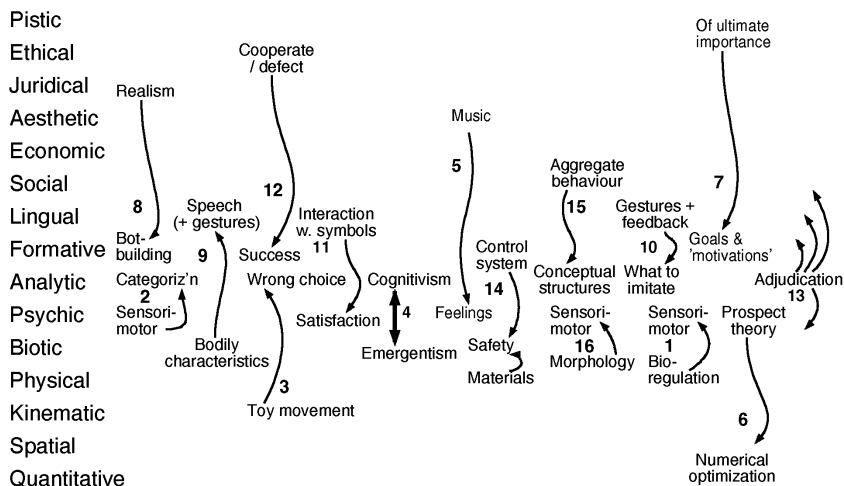


Figure 11.1 Aspectual profiles of cognitive modelling papers  
 Based on Figure 1 in Basden & Kutar (2010).

tactical choices in organism motivation, which seemed to us to be meaningful in the pistic (ultimate importance) versus formative (goals) aspects respectively. Figure 11.1 shows these aspects for the chapters (numbered).

This offers an overview of both topics and aspects that make them meaningful. It reveals both the diversity of the collection, in that nearly every aspect is featured in at least one paper, and its coherence, around the aspects most relevant to cognition itself, the psychic to lingual. This approach was able to bring Cartesian and Heideggerian perspectives together in one understanding.

I undertook a similar exercise in the field of built environment, contributing the final chapter to *Future Challenges in Evaluating and Managing Sustainable Development in the Built Environment* (Brandon et al. 2017). This collection of 19 papers emerged from a workshop in honour of Peter Brandon. Again there was considerable diversity, because we had been asked to “think outside the box”, ranging from the role of carbon in sustainable development to smart cities, digital technologies, value-oriented stakeholder engagement, sustainability in practice, construction contracts, the role of time, and Peter’s own chapter, “Initiative and Obsolescence in Sustainable Development”.

My chapter (Basden 2017) sought to construct a coherent picture of the “outside the box” diversity from within the multi-aspectual paradigm of sustainability (§11–3.3), as well as suggest a way ahead. This approach let us see all the activities as multi-aspectual functioning. As above, aspects allowed us not just to feel the diversity but also to understand it. Unlike the field of cognition, where coherence was around some central aspects, here it was the whole “coherence of meaning” of all aspects, which underlies the entire reality of built environments.

### 11–2.4 *More Complex Inter-Discourse Analysis*

The above two examples yield overviews of discourses. Nick Breems developed a method that offers more complex understanding of the interests and capabilities of discourses. The primary reason for his research (Breems 2014) was to test Basden’s (2008a) framework for understanding information technology/systems (IT, IS) use, as three multi-aspectual human engagements (see §11–3.6.3), but what interests us here is that, in doing so, he developed a method for (a) understanding complex problems and (b) understanding why extant discourses had not adequately addressed that problem. Breems’ work led to the Aspectual Engagements Framework discussed in Basden (2018a), summarised in §11–3.6.3.

#### 11–2.4.1 *Breems’ Study*

Whereas a theory might be tested by falsification, a framework (or paradigm; see §8–2.2) must be tested for utility instead. Breems decided to investigate how well the framework could cast light on the challenging problem of computer procrastination—when faced with an arduous task, we take “just a few minutes” to check social media or play a game, and this extends to several wasted hours, so we end up feeling guilty!

By introspection of his everyday experience of playing the Yahtzee computer game, he identified aspects that make each of the three engagements (§11–3.6.3) meaningful; examples: spatial proximity in the user interface, aesthetic attractiveness of tempting content, and waste of time in life (economic). Potentially, this gives 3-times-15 (45) sets of aspectual issues. He similarly analysed, by aspect and engagement, five discourses that might be expected to throw light on computer procrastination—psychology, human-computer interaction (HCI), technology acceptance, non-work-related internet use (NWRUI) and problematic internet use (PIU). For his method, see §11–7.4 and Breems & Basden (2014).

For his empirical study and for each discourse, he charted the results as “heatmap diagrams”, 3-by-15 arrays of cells, in which the shade, darkness or colour indicates how important a discourse finds the corresponding aspect of the corresponding engagement. The result is shown in Figure 11.2.

Breems’ analysis shows (a) the different interests of the five discourses (for instance, psychology is concerned only with human life, HCI is concerned only with engaging with interface, TAM is concerned with both, but fewer aspects are important); (b) that some restrict themselves to one or two engagements and others to certain aspects; (c) that none of the discourses are adequate to address the full meaningful complexity of the problem of computer procrastination (right-hand heatmap) . . . (d) not even if the interests of the five discourses were amalgamated; (e) and that this might explain why the problem has not received the attention it should.

Breems’ method is discussed more fully in Breems (2014) and Breems & Basden (2014). It offers a systematic approach to understanding diversity of discourses in a field as a whole, enabling comparisons of patterns of

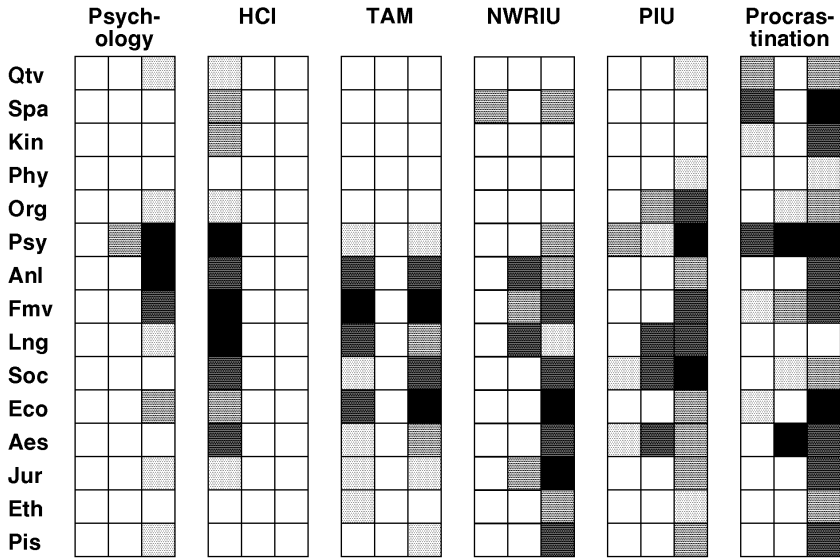


Figure 11.2 What is meaningful in computer procrastination and five relevant discourses

meaningful factors to be made both between discourses and with everyday experience.

*Research opportunity: computer procrastination.* Breems’ empirical study of computer procrastination was by introspection. Use the Aspectual Engagements Framework to make a more precise empirical study of computer procrastination—and other complex problems.

### 11–2.4.2 Basden’s Study

Breems’ method was used by Basden (2018a) to gain perspective on 17 discourses around IT use (see §11–3.6.3), which is shown in Figure 11.3. For full explanation and discussion of this, see Basden (2018a, 209–12).

Briefly, this reveals the following about the research area that is IT use.

The field is unbalanced, with only two discourses interested in engaging with interface and technology, and only three seriously interested in engagement with meaningful content. In 11 of the 17 discourses, aspectual issues appear mostly in the right-hand column, which expresses engagement in life with IT. The lack of interest in the other two engagements is worrying. Might this suggest the need for a substantial change in direction in the field? The growing interest in ‘materiality’ and affordance (#15) might indicate awareness of this, and Dooyeweerd’s philosophy can affirm, critique and enrich them (see Chapters 6 and 7 in Basden (2018a)).



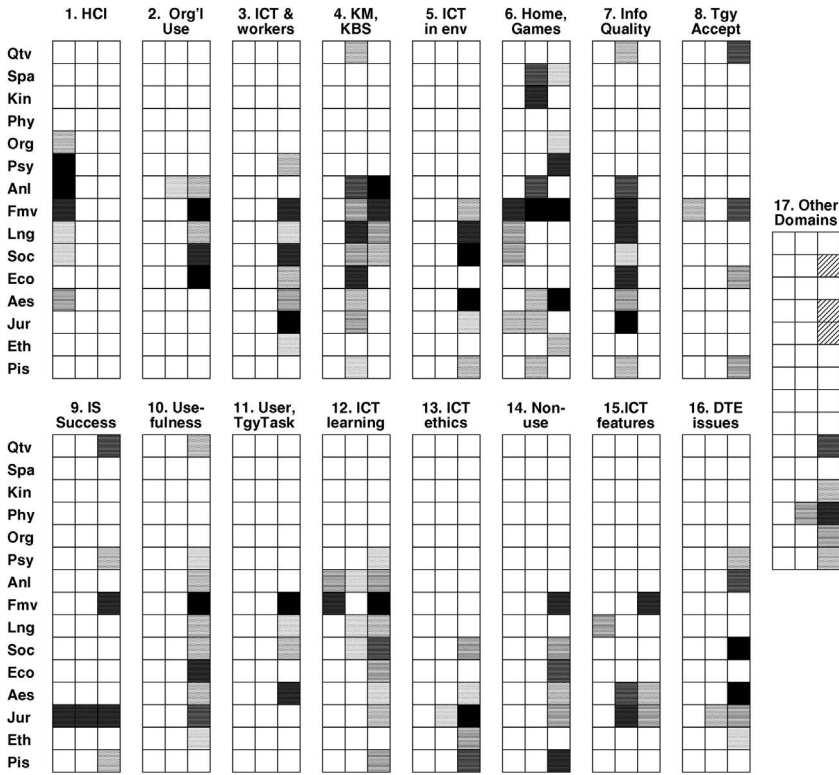


Figure 11.3 Aspectual engagement heatmaps for 17 discourses in IS use  
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Likewise, certain aspects are given much more attention than others—the formative and juridical, especially—and many aspects are ignored. For example, there is little discussion especially of the ethical aspect in the field, as self-giving love, and maybe even presupposing its dysfunction (self-interest), which might account for problems in social media. Underrated aspects suggest new avenues of research that might be fruitful. We might critique each discourse by pointing to its limited ranges of aspects and suggest that considering other aspects might enrich it. We might examine whether reductions of ignored aspects to favoured aspects have occurred in a discourse; for example, of ethical to juridical aspect when thinking about “ethics”.

One discourse, “6. Home, Games”, finds more aspects meaningful than others do and recognises the importance of all three engagements. This perhaps is not surprising, since home computing and computer gaming are closer to everyday life than are most of the other use topics, which are from a professional context. Frissen (2000, 73) argues that “knowledge of the

dynamics of everyday life is indispensable to understanding the processes of acceptance of ICTs”; this aspectual analysis reveals that his call seems to have gone unheard.

### 11–2.4.3 *Reflection on Heatmaps*

This approach offers a principled way of gaining an overview on diversity, because it can investigate and express complex patterns of aspects in a way the human visual system finds it easy to process.

Shading is, of course, not as precise as the length of a bar or a number, so such a display is useful where degrees rather than precise counts are to be shown, especially those arising from intuitive judgments, as in Breems’ and Basden’s studies. Their judgment of how important each aspect of each engagement was within a discourse arose from their reading of papers within it, noticing the frequency with which issues meaningful in each aspect were mentioned; Joneidy’s method above is more systematic.

*Research opportunity: discourses in a field.* Undertake similar analyses in other fields.

## 11–3. **Conceptual Frameworks: Dooyeweerdian Adventures Among Paradigms**

Research is carried out with reference to a conceptual framework and within a paradigm. Usually, these are selected from extant alternatives, perhaps with modification, and Dooyeweerd can help critique them, to inform the selection. Sometimes, either or both might be constructed anew, and Dooyeweerd is especially good for that, because of his radically different standpoint. This section looks at experience of using Dooyeweerd’s philosophy to critique paradigms, generate new paradigms and formulate conceptual frameworks, demonstrating several different approaches that readers might generalise for their own fields.

### 11–3.1 *Critique of Paradigms in Statistics*

Hartley (2008) identifies four paradigms for statistical inference—direct and indirect frequentism (DF, IF), and objective and subjective Bayesianism (OB, SB). He argues that these paradigms influence both the statistical procedures used and how the results thereof are interpreted. He then employs Dooyeweerd’s conception of the Humanistic Nature-Freedom dialectic (§5–2.2; *NC* (I, 148–206)) and other Dooyeweerdian thought to appraise the paradigms.

He argues that DF is controlled by the Nature pole, which leads it into unjustifiable objectivism and speculative attempts to arrive at truth by purely mathematical means. The ‘religious’ (§5–2.3) adherence to the Nature pole hides several problems, as may be seen in the following. DF takes the standard statistical 95% confidence interval (CI) as an interval that, once calculated, contains the targeted unknown quantity (the “parameter,” such as a population mean) with 95% probability. First, the 95% is a purely

social convention (a hidden social rationality, §7–1.3). Second, the DF position tends to obscure the meaningfulness of the aspect of the world being statistically analysed (physical, biological, psychological, social, etc.) by encouraging us to ignore expert opinion about those aspects in favour of mathematical determination. Third, its common interpretation of the CI as the probability that the CI contains the parameter is unwarranted under quantitative rationality, because the CI is actually a single member of an infinite set of CIs (one CI per experiment, in an infinite series of hypothetical experiments), 95% of which should contain the parameter.

The IF analyst calculates roughly the same statistical results as does DF, but interprets those results merely as informal “evidence” to be combined loosely—rather than mechanistically—with whatever other information happens to be available about the parameter. This is expressed in “That’s up to you. Statistical calculations provide the p-value. You have to interpret it” (Motulsky, cited by Hartley 2008, 32). Expert opinion would be accepted without question, regardless of the possibility that experts can be mistaken or biased. Because of ‘religious’ adherence to the Freedom pole, IF offers no basis for interpretation other than subjectivity.

Dooyeweerd offers aspectual meaningfulness and law as such a trans-subjective but non-mechanistic basis.

Both OB and SB recognise the pertinence of beliefs and seek to update pre-analytic beliefs (“priors”) about parameters using modelled data. OB seeks to remove all human freedom and judgment from this updating, by insisting that priors must be formed solely using mathematical principles such as “maximum entropy” or “non-informativity” (Hartley 2008, 47). SB forms priors from whatever background information is available, including experts’ opinions, and expresses the priors as pre-analytic degrees of belief of an individual or community.

Hartley claims that IF, DF and OB all exhibit problems of dialectical ground-motives discussed in §5–2.4. He suggests, however, that (a) SB need not be subjectivist, (b) SB may be situated and enriched with Dooyeweerd’s multi-aspectual ground-motive and (c) most statistical procedures of the other three paradigms (though not their interpretations) may be incorporated therein. The incorporation is facilitated not only by virtue of the mathematics shared by all the paradigms, but also by the ways in which, under some conditions, frequentist and OB results approximate SB results.

Dooyeweerd would suggest that statistical inference should synthesise the rationalities, properties and laws of the quantitative aspect, the pistic aspect (beliefs) and the focal aspect(s) of the research (physical, organic, social, etc.), respecting the sovereignty and the mutual dependence of the various aspects of human experience. Hartley argues that SB, taken non-reductively, can achieve this.

### 11–3.2 *Paradigms and Frameworks in Systems Thinking*

As discussed by Eriksson (2003) (§5–2.4), the three standard paradigms of systems thinking, known as hard, soft and critical systems thinking, exhibit flaws. Hard systems thinking is rigid, soft systems thinking though less rigid ignores normativity and critical systems thinking too narrowly fixes

on norms of emancipation or power and ignores everyday experience. In response, two new paradigms of systems thinking have emerged from the Reformational perspective and a modification of soft systems thinking.

*Multi-modal systems thinking* (de Raadt 1991) criticises soft systems thinking for being nihilistic and critical systems thinking for presupposing the dogma of the autonomy of theoretical thought (§2–1.2) and thus unable to provide normative guidance. It holds that God has provided the universe with laws that govern it, and de Raadt employs a modified version of Dooyeweerd's suite of aspects to provide a conceptual tool for practical analysis of those laws. This is why it is called "multi-modal".

*Disclosive systems thinking* (Strijbos 2006) is similar, but emphasises disclosure. Using more of Dooyeweerd's understanding of reality (§4–3), it offers four principles: (1) Intrinsic normativity. Humans keep producing new things, which discloses new possibilities. (2) Simultaneous realization of norms led by a qualifying norm. Norms are multifarious, and all should be actualised together, recognising the correlation between law and reality. Strijbos links this with God. (3) Disclosure is multi-actor activity. Justice must be done to the responsibilities of all actors. (4) Critical awareness of the socio-cultural context. As in critical systems thinking, social structures should be questioned, but in addition there must be critical awareness that norms are not merely socially constructed.

Strijbos' DST is rather abstract. Goede et al. (2011) suggest making it more usable with Dooyeweerd's aspects providing the norms that, beyond social construction, open up possibilities and need to be simultaneously realized (*shalom*, §4–3.7).

The "appreciative critique" of Checkland's (1981) Soft Systems Methodology (SSM) by Mirijamdotter & Bergvall-Kåreborn (2006) applies Dooyeweerd's ideas to critically affirm and enrich several of its key notions, drawing on their empirical studies. SSM's idea of rich picture may be seen as multi-aspectual analysis of the functioning of a situation. Its evaluation criteria ("E's") clearly relate to distinct aspects (see Table 10.1). Its Design and Comparing phase may be guided by aspects, to pose meaningful questions. Aspects also offer excellent performance indicators for SSM's Conceptual Activity System. Bergvall-Kåreborn (2006) discusses the utility of Dooyeweerd's notion of qualifying aspect (§4–3.4) to the model-building phase, especially in the process of unfolding rationalities in defining problems and proposing improvements, and in clarifying and broadening the *Weltanschauungen* of participants. Basden & Wood-Harper (2006) enrich SSM's CATWOE analysis with aspects and other portions of Dooyeweerd's philosophy. The wide applicability of Dooyeweerd's aspects is not surprising, given that SSM aims to help us understand, evaluate and intervene beneficially and holistically in human activity systems taken as everyday experience.

### 11–3.3 *A Multi-Aspectual Paradigm in Sustainability*

Sustainability involves many factors that could undermine it indirectly. To understand and evaluate sustainability is very challenging. Brandon &

Lombardi (2005) introduce a new paradigm for evaluating sustainability in the built environment, by which the plethora of factors and their intertwinement may be understood.

They use Dooyeweerd's aspects, treating sustainability as a version of multi-aspectual *shalom* (§4–3.7). Thus, for example, the organic aspect concerns sustainability of life and health, the physical aspect concerns such issues as climate change, the formative aspect concerns technology, the economic aspect concerns resource depletion, the juridical aspect, legal infrastructure, and the pistic aspect, prevailing beliefs in society, for instance about whether GDP or future generations are the more important. Humanity's functioning in these juridical and pistic aspects affect how we function in the organic aspect.

Brandon & Lombardi offer a paradigm at the macro level (Kuhn's (1971) 'disciplinary matrix'). Veronica de Raadt's (2002) *Ethics and Sustainable Community Design* offers one at the micro level (Kuhn's exemplar).

Guided likewise by a version of the *Shalom Principle*, de Raadt recognises that for a community to be sustainable over the long term, many issues need attention. She discusses the normative issues in the community, opening up ethics, belief and science in particular. Drawing on the writings of Churchman and von Bertalanffy, who called for a humane science, she suggests that Dooyeweerd's aspects can offer a solution. She develops the *multi-modal systems approach*, in which multi-aspectual functioning (§4–3.8.2) is the norm for all social activities (family, church, school, sports, etc.), and which emphasises links between aspects. Links can be beneficial or detrimental for sustainability and form a network with several loops, including self-reinforcing loops (a systems notion).

Interviewing residents in a village in crisis in northern Sweden, de Raadt built a picture of aspectual loops that characterise the community. Identifying detrimental links and loops (§3–4) can assist community planning and perhaps propose community redesign with the aim of generating as many positive loops as possible. As de Raadt makes clear, use of this paradigm is susceptible to prior commitments, so these should be clearly identified when presenting results, as she does (p. 147); c.f. §10–4.1.

While Brandon & Lombardi focus on the built environment and de Raadt on community activities, Gunton et al. (2017) work within the multi-aspectual paradigm to propose a framework for valuing ecological sustainability, the Ecosystems Valuing Framework (EVF). The Ecosystems Services (ESS) idea was introduced in the 1990s as a way to raise strategic thinking above merely financial issues when thinking about, for example, whether woodland should be felled in order to build houses, by recognising the services that such things give to people. This, however, downplays that which has little direct, immediate benefit to human beings. The EVF is based on Dooyeweerd's aspects, as spheres of meaningfulness and law that transcend humanity and in which all temporal reality exists and occurs, and which define value that may not be reduced to human needs or desires. This escapes the anthropocentric nature of ESS, widens the range of issues considered and offers a better classification.

An initial test of this paradigm's quality might be offered by Gareth Jones' research, who constructed knowledge based systems to guide local authorities in developing sustainable policy. Jones (2007) did so within the multi-aspectual paradigm of sustainability. A screenshot of his knowledge base for environmental protection is shown in Figure 11.6, in §11-6.6, where his knowledge elicitation method is described. Others, e.g. housing, were more complex.

Four policy practitioners were asked to examine the content of the knowledge bases constructed within the multi-aspectual paradigm. All agreed that it was "insightful", "comprehensive", "exhaustive" and "generic" (Jones 2007, 371). Jones continues,

Furthermore, no sustainability issue identified over the duration of the project failed to relate to this aspectual framework for understanding. The benefit of this aspectual suite is that it appears to provide high-level coverage of all relevant sustainability dimensions and a framework within which other indices might nest.

He also discusses the benefit Dooyeweerd offered to the *process* of sustainability policy development and evaluation, especially with aspects, analogies and normativity. The dimensions of sustainability process had been poorly understood, and the practitioners found this an "excellent way of understanding the process of sustainability" and a means of "gaining real insight into this complex process" (p. 372). See §10-5 and §11-6.6 for further details.

### **11-3.4 A New Paradigm of the State and Civil Society**

Dooyeweerd extensively discusses the state, using especially his notion of multi-aspectual individuality structures and enkaptic relationships (§4-3.4, §4-3.5), which could be seen as a then-new paradigm of the state. Chaplin (2011) discusses this in the context of more recent developments, to yield the beginnings of conceptual framework that avoids "narrow focus on institutions as opposed to behavior or processes" and might be summarised as "power in service of justice" (pp. 161-2). Chaplin's goal in engaging with Dooyeweerd is to use his work to contribute to a clarified and enhanced account of contemporary concepts of "the state" and "civil society".

He discusses the identity of the state in terms of the structural principle of juridical qualifying and formative-historical founding functions, in which all other aspects also play important supportive roles. His discussion of the just state is largely in terms of institutional spheres of sovereignty in society, each defined aspectually, which can determine the state's own sphere of authority in relation to other spheres and judge (justly) between claims made by other spheres. Chaplin discusses absolutism and democracy, and presents Dooyeweerd's idea of legal pluralism as "original and fruitful" (p. 210), then he questions Dooyeweerd's belief that the tension between the two cannot be resolved by appeal to the structural principle of the

state (p. 216). The relationship between state and nation, family, church, economy/industry, etc. must be informed by the mutual irreducibility of the aspectual norms by which each is led, leading to discussions of issues like worker participation in industry. Chaplin discusses Dooyeweerd's views on civil society and Christian pluralism by reference to an extra-Dooyeweerdian categorisation, civil society as protective, integrative and transformative. (See also §12–1.5.)

Chaplin's critical discussion of Dooyeweerd seems to me of enormous importance in the 21st-century political scene, though his intention seems to be less the development of a full conceptual framework and more an argument for the distinctiveness of Dooyeweerd's ideas. For instance, in his comparison of Dooyeweerd's with Walzer's similar ideas about spheres of justice, Chaplin's intent is to "bring the distinctiveness of Dooyeweerd's position into sharper relief" (p. 158) rather than establishing fruitful points of contact.

This echoes my own intention a decade ago in Basden (2008a), discussed in §11–3.6. Chaplin's and my own attempts might indicate a norm for introducing Dooyeweerd into a field: We must first work out in some detail for ourselves how Dooyeweerd fits into the field and, having done that, work to affirm, critique and enrich extant thought (§10–1), which in my case occurs in the later Basden (2018a).

### *11–3.5 New Paradigm in Knowledge Management and Tacit Knowledge*

Tacit knowledge is an important issue in organisational knowledge management, but there is much confusion and fruitless debate. Polanyi (1967) highlighted the idea ("We know more than we can tell"), which was recognised as a challenge in knowledge elicitation. Then organisations, when trying to capitalise on knowledge 'within' them, encountered the problem that knowledge that people hold individually is not known more widely in the organisation as a whole ("tacit knowledge in organisations" (Baumard 1999)) and sought ways to explicate it. Nonaka & Takeuchi (1995) proposed the seminal SECI model (socialization, externalization, combination, internalization) with which to do so. Polanyian purists, however, argue that true tacit knowledge can never be explicated.

Alex Kimani (2017) drew on Basden's (2008a) model of multi-aspectual ways of knowing (§4–3.12) to critique, understand and situate six approaches to tacit knowledge found in the literature, finding they relate to the psychic, formative, social, economic, juridical and pistic aspects. His empirical study of tacit knowledge in a small business, guided by this multi-aspectual paradigm, revealed every aspect from psychic onwards to be present in tacit knowledge, in spoken and unspoken motivations, within statements made by interviewees, and in the functioning that is the making of the statements. From this, he constructed a model of tacit knowledge in organisations, which incorporates both individual and collective knowledge. He sees it as an aspectual version of SECI.



### 11–3.6 *New Paradigms and Frameworks in the Information Systems Field*

My 50 years' experience in information technology and information systems (IT/IS) has been in five areas of concern to the field:

- computer programming (and design and testing) and development of information systems, multimedia and websites;
- design and facilitation of information technology features: algorithms, data structures, user interface devices, including virtual reality, languages in which to express knowledge;
- use of information systems and technology, including computer gaming;
- the impact of IT on society and vice versa, sustainable and righteous living, and technological progress;
- artificial intelligence and the nature of information, computers, etc.

These are seen as different areas and seldom discussed together. Each area developed their own paradigms, which I found could seldom, if ever, allow us to understand everyday practice adequately. As elaborated in the prefaces to Basden (2008a) and Basden (2018a), during a dozen years in professional life, I had begun to think of new ways in which reality might be approached, understood, studied and guided.

That was before I met Dooyeweerd. The paradigms and approaches I had met in various areas had seemed, to my intuition, insufficient or distorting, but I did not understand why. I suppressed my intuitions until I found Dooyeweerd gave philosophical voice and validity to them. Upon discovering Dooyeweerd's philosophy, it gradually dawned on me that most of these paradigms and areas could be understood from a Dooyeweerdian perspective, alongside others, especially since he had an everyday, diversity-oriented perspective, expressed via his aspects, which I learned to use as a conceptual tool.

I did not want to force a Dooyeweerdian view on them, nor promote his philosophy as superior to others, but a decade later I understood how each of the ideas might be situated in a wider picture painted by Dooyeweerd. Basden (2008a) was an attempt to recount that, with a Dooyeweerdian framework for understanding each of the five areas, to try to show the distinctiveness and value of Dooyeweerd's ideas. Over the next decade I sought engagement between Dooyeweerd's ideas with extant ideas, paradigms and theories in each of the five areas. Indeed, I was often forced to do so in order to properly teach or supervise my students! Basden (2018a) expresses some of that engagement and discusses how each of the (now updated) Dooyeweerdian frameworks for understanding might affirm, critique and enrich around 50 discourses in these areas.

Each of the frameworks is both a different paradigm in Kuhn's (1971) macro sense of disciplinary matrix and a generator of new ones in his micro sense of exemplars (§8–2.1). I will explain each in turn, since reference is



made to some of them from elsewhere in the book. Readers might like to generalise what I did to other fields.

For each, portions of Dooyeweerd's philosophy are mentioned, most of which are explained in Chapter 4.

### *11-3.6.1 ISD: Information Systems Development, Including Programming*

See Basden (2008a's chapter VI, 2018a's chapter 9). The problems in the field of ISD revolve around the dialectic between control and freedom (Nature-Freedom ground-motive, §5-2.2) in programming, around errors and failures, and in both its silo mentality in academia and compartmentalisation in practice, with a shirking of genuine responsibility.

I reconceived ISD as four intertwined responsibilities, with four associated activities, each of which is multi-aspectual. I argue that agile development might be an intuitive attempt to recognise multiple aspects of the multi-aspectual activity and responsibility of ISD, and that other approaches may be understood as emphasising certain aspects. The important portions of Dooyeweerd's philosophy here are normativity of aspects, coherence of aspects and enkaptic interlacement of the responsibilities/activities.

This was recast as a master's course, *Key Issues in Information Systems Development*, in which I simply went through every aspect of each of the four responsibilities. It proved very popular with students, especially mature students with experience.

### *11-3.6.2 IT Features*

See Basden (2008a's chapter VII, 2018a's chapter 7). Features are those things that IT users encounter, such as well-designed menus, which delight them, or inaccurate algorithms, which annoy them. This is now called "materiality of IT" and has given rise to the topic of affordance. Features enable or hinder users from accomplishing information-related tasks and activities and are often inappropriately designed, not only because development processes are flawed, but also because the languages for design and implementation do not recognise a full range of aspects and force developers to implement facilities meaningful in one aspect in terms of another (reductionism). This issue of appropriateness takes several forms.

ICT features are understood via the Dooyeweerdian subject-object relationship, its multi-aspectual nature and its corresponding multi-aspectual normativity. Thereby, the topics of affordance and appropriateness are integrated, and their diversity of kinds of each may be addressed.

### *11-3.6.3 IT/IS Use*

See Basden (2008a's chapter IV, 2018a's chapter 6). What challenges the area of IT/IS use is isolation of discourses. Drawing on work by Breems

and Joneidy (§11–2), I identified discourses, or lack thereof, around 17 areas of concern. While some discourses interact, many keep separate (especially ethics), some are ignored, and in particular there has been a tendency of the IS field to isolate itself from the ‘technical’ issues of computer science or programming. In this light, the socio-technical approach should be welcome but, as discussed in §8–1, it misses out the core aspect of information systems, namely information content. No overall framework for understanding IT/IS use had emerged that can address all 17 concerns.

What Basden (2018a) calls the *Aspectual Engagements Framework* conceives IT/IS use as three multi-aspectual human engagements, based around Dooyeweerd’s notions of aspects, coherence, normativity and enkaptic relationships.

- EIT: engaging with interface and technology (examples: navigating menus, kinematic-analytic; battery failure, physical);
- EMC: engaging with meaningful content (examples: fighting a dragon in a dungeon game, formative; nurse responding to information on patient’s record, ethical);
- ELI: engaging in life with IT, especially concerning benefits and harm (examples: information more easily available, economic; bullying on social media, ethical-juridical).

Normativity (“ethics”, axiology) is built-in. The three are seen as enkaptically entwined, and all three are multi-aspectual.

This implies that to understand IT/IS use fully, we must take into account up to 15 sets of meaningful issues per engagement: 45 sets. No wonder most research into IT/IS use ignores many factors, as shown in Figure 11.3! Basden (2018a) discusses how each of the 17 discourses may be affirmed, critiqued or enriched when seen with this framework.

#### 11–3.6.4 *IT and Society*

See Basden (2008a’s chapter VIII, 2018a’s chapter 8). The area concerned with IT and society is fragmented, with frequent ideological conflicts and little overall understanding of what is going on. Individual and societal issues are treated differently. The guidance received by governments, the IT industry, etc. from experts is suspect. What is the role of IT in society: to grow ‘the economy’, to ‘emancipate’ workers, or what? What is technological progress? What is the impact of widespread use of IT on society and planet?

Dooyeweerd’s aspects allow us to consider individual, societal and also pre-human aspects together, with multi-aspectual inherent normativity. Widespread use is seen as aspectual repercussions multiplied by the social aspects, and the juridical, ethical and pistic aspects are seen as forming society’s structures, which affect individual and organisational activity. The role of IT is lingual, which facilitates various targeted aspects, including both economic and juridical. Progress is seen as opening up of aspects (§4–3.8.3).

In addition, Dooyeweerd's notion of correlative enkapsis and *Umwelt* may be called on to understand how society relates to its denizens, and to other *Umwelten* like the economy and the Internet (§4–3.5). Links are made with Structuration Theory.

### 11–3.6.5 *Nature of Information and Computers*

See Basden (2008a's chapter V, 2018a's chapter 5). Fruitless debates continue over the artificial intelligence question, "Computer = Human?" There is no clear idea of what information actually is, nor documents nor computers, nor even programs.

Dooyeweerd's notion of being as multi-aspectual meaningfulness (§4–3.3) helps cut through this. We may understand information, computers and documents as multi-aspectual beings; see §11–4.3. The intransigence of AI debates may be accounted for by reference to the three dialectical ground-motives (§5–2.2, §5–2.3), so a new understanding, based on aspectual functioning, allows both Yes and No answers to the AI question. Programs also may be viewed as virtual law-sides that govern virtual worlds—and as performance art as well.

### 11–3.7 *Broadening Paradigms in Engineering*

Ribiero et al. (2017) uses Dooyeweerd's philosophy to argue for a more holistic model to guide the development of smart grids, in which renewable energy sources are integrated. In a paper aimed at engineers, they review the challenges of electricity supply, mentioning diverse factors, many of which are from everyday experience of both providers and potential 'consumers', including intermittency of supply, the incorporation of small-scale generators, changes to the economic infrastructure, rural living and resistance by utilities. They end up with a model comprising three factors, "technical", "economic", and "social and ethical". They employ Dooyeweerd's aspects early on in the paper, to motivate readers to consider wider factors than just technical and economic.

I wondered why they did not employ Dooyeweerd's aspects more boldly, to generate their conceptual model, as the rest of this section might suggest. Their technical and economic factors are meaningful in the formative and economic aspects, as well as the physical (intermittency of wind, sun), but their "social and ethical" factor combines and conflates the social, aesthetic, juridical, ethical and pistic aspects. Though examples of each are mentioned throughout the paper, showing an awareness of them by the researchers, did they lose an opportunity to highlight the distinct importance and repercussions of each (§4–3.8)? For example, the pistic aspect of belief in, or resistance to, renewable energy is especially important because it retrocipatorily impacts all other decisions (§3–2.4.5).

It may be, however, that the authors felt they could not expect their audience to take more than half a step towards a more holistic approach. Might

this indicate a possible challenge to encouraging researchers and others to take Dooyeweerd's ideas seriously? Perhaps we need to be wisely bold and boldly wise.

### **11-3.8 Reflection**

In adventuring among paradigms with Dooyeweerd's philosophy, a variety of researchers have critiqued, affirmed and enriched several fields, and some new conceptual frameworks or models have emerged from doing so. Enrichment has been either of existing paradigms, such as of systems theory, by reinterpreting more richly, or of whole fields, by suggesting new paradigms, especially in those of sustainability, knowledge management and information systems. Some of the paradigms are Kuhnian disciplinary matrices, others are exemplars (§8-2.1).

Most adventurers have employed Dooyeweerd's aspects to separate out tangled issues, clarify confusions, reinterpret some in richer ways, or to suggest new norms or meaningful ways of seeing situations that had been overlooked. The innate normativity and multi-aspectual coherence of aspects has imparted a fuller and more responsible feel to some of the paradigms. Along with this, other Dooyeweerdian notions have sometimes been found useful, especially in Basden's thought: Dooyeweerd's interesting subject-object idea, enkapsis and meaningfulness-grounded being.

Critique has been given sometimes by drawing attention to missing aspects and sometimes by viewing inter-paradigm oppositions in the light of dialectical ground-motives.

The challenge now is to widen the range of fields in which Dooyeweerd is brought to bear. Extending Dooyeweerd's ideas to fields like linguistics, economics and perhaps some of the humanities might follow similar lines as above. Extending to the natural sciences and mathematics, however, might be different, because they would seem to focus on a narrower range of aspects, as discussed in §11-8.3. Dooyeweerd did discuss some of these fields in the mid-20th century, with arguments that showed the potential therein, but his approach was mainly critique rather than affirmation or enrichment. Critique is marginally useful to a field, for example in halting folly, but enrichment is much more useful, opening doors to new avenues and adventures.

### **11-4. Conceptual Frameworks: Clarifying Concepts and Ideas**

At several stages of research, but especially while formulating conceptual frameworks, concepts and ideas need to be clarified. This section discusses a few ways in which this has been accomplished using Dooyeweerd's philosophy.

As irreducibly distinct spheres of meaningfulness (§3-2.3), it is no surprise that Dooyeweerd's aspects offer an excellent basis for sound categorisation and classification (§4-3.2). They are also useful for differentiating ways in

which a concept or idea is meaningful, understanding how the aspects relate to each other therein and sharpening up concepts by reference to the kernel meaningfulness of aspects.

#### 11–4.1 *Understanding a ‘Simple’ Concept: Diagrams*

In diagrammatology the notion of diagram itself is not well understood but is based on our intuition. In *Wikipedia*, a diagram is “a symbolic representation of information according to some visualization technique”, and visualization is “any technique for creating images, diagrams or animations to communicate a message”. There is a circularity here. The *Wikipedia* page lists well over 100 types of diagram. As far as I know, no practical but philosophically sound basis exists for differentiating such a wide range of diagram types.

Fathulla (2007) employed Dooyeweerd’s aspects to understand the nature of diagrams, as “Symbolic Spatial Mapping”. It is symbolic insofar as it necessarily functions in the lingual aspect of signifying chosen pieces of meaningfulness (§4–3.11.1). It is spatial insofar as what carries this signification is spatial in its primary functioning, e.g. lines and shapes. This offers a basis for differentiating diagrams from photographs, for example, in which signification, if there is any, is carried by colour (psychic functioning), and art, in which it is carried by aesthetic functioning.

There is a mapping between the spatial and lingual, which defines the type of diagram, and Fathulla examines the mapping rules in detail for several types, not only box-and-arrows diagrams and bar charts, but less-discussed types like (geographic) maps and contours. A diagram’s signification-meanings target yet another aspect, for instance quantitative and analytic for bar charts (amount, comparison), and spatial, formative and analytic for maps. Note: Maps involve the spatial aspect twice, as a foundation for visual psychic functioning and as target aspect.

This approach, based on aspectual irreducibility and coherence (§3–2), avoids circular definitions and allows us in principle to understand what makes each type of diagram work.

*Research opportunity: diagrams.* Apply Fathulla’s Symbolic Spatial Mapping to the 100 types listed in *Wikipedia*.

#### 11–4.2 *Exploring a More Complex Concept: Idolatry*

The failure of many e-government projects may be laid at the door of idolatry, suggests both Heeks (2006) and Gauld & Goldfinch (2006). Both use the notion without much discussion, so Subrahmanian Krishnan-Harihara wanted to research this. He employs a characterisation of idolatry in Goudzwaard’s (1984) essay, *Idols of Our Time*, which was written in response to what he felt was idolatry in Dutch politics of the time, of technology, of economism, of nationalism and of defence.

Idolatry is a dysfunction in the pistic aspect. Goudzwaard (1984) gives ten ‘stages’ in the development of an idolatry. It was written, Goudzwaard

told him, as an intuitive response, and he later wrote a more rationalised version. Krishnan-Harihara decided to use the intuitive version because it is richer, more harmonious and closer to Goudzwaard's everyday experience of concern, and hence a better basis for understanding such complex phenomena (§2–6.3).

Idolatry begins when, metaphorically, “people sever something from their immediate environment, refashion it and erect it on its own feet in a special place”. Krishnan-Harihara developed this idea into a substantial model of how idolatry operates to undermine e-government projects. For example, the idea of government is severed from its historical and social context and refashioned as ICT-enabled ‘transformational government’. It occupies a special place in government thinking, often given a separate department. Just as worshippers “kneel before” the idol, so e-government receives adulation, and they see it “as a thing that has life in itself” by letting it determine its own course of development. Just as worshippers “bring sacrifices”, much is sacrificed to install e-government, and the poor become increasingly disenfranchised. The full analysis can be found in Krishnan-Harihara & Basden (2009).

Aspectual dysfunction presupposes aspectual good (§4–3.7). So there is also a positive possibility of being committed to good rather than serving an idol. Krishnan-Harihara & Basden (2010) argues that each stage of idolatry has a positive counterpart, which is possible if a non-idolatrous attitude is maintained. Pistic functioning, good or bad, influences behaviour in all other aspects retrocipatorily, and the authors bring in Dooyeweerd's aspects to consider this.

This is an exemplar of how one of Dooyeweerd's aspects can be developed as the core idea of a research project, without ignoring other aspects. Basden (2018a, 295–6, 2008a, 329–32) contains detailed discussion of this work.

### **11–4.3 *Multi-Aspectual Concepts: Information, Documents***

What is *information*? Several parallel discussions are extant. Floridi (2004) presented 18 ‘open problems’ for the philosophy of information, such as the dynamics of information, how data acquires meaning and whether there is information in reality without life. In parallel, Checkland & Holwell (1998) and others ask how information differs from data and knowledge (knowledge, not as knowing, but as that which encyclopaedias, newsfeeds or archives hold). Shannon (1948) tried to reduce information to patterns of digital bits. Most of these discussions presuppose information as a substance (§4–3.3) usually generated by a process (data becomes information, information becomes knowledge). Yet questions about the presupposition are beginning to emerge, for example in Tuomi's (1999) “iconoclastic argument” that “the often-assumed hierarchy from data to knowledge is actually inverse: knowledge must exist before information can be formulated and before data can be measured to form information.” See Basden (2018a, 123–35) for an outline of the discussions.

Basden (2008a, 2018a) suggests that Dooyeweerd can throw light on the nature of information by seeing information (and data, knowledge, etc.) as

aspectual beings of one whole that informs. Information is the multi-aspectual object generated by lingual functioning to signify (that is, to carry signification-meaning). Its medium might be paper, stone, human gestures or digital technology, and its language might be German, a computer language, data protocol or mathematical or diagrammatic notation, but these make no difference to its nature as information, because such variations occur in earlier aspects, on which the lingual functioning depends foundationally (§3–2.4.4) but cannot be reduced thereto. Media describes the physical and organic foundational aspects of information and language, the analytic and formative (vocabulary and syntax). The visual or bit pattern is information’s foundational psychic aspect.

In this understanding, data is information is knowledge simultaneously and Checkland-Holwell meets Tuomi, and both can welcome Shannon. Almost all of Floridi’s Open Problems can be addressed, though that possibility has yet to be subjected to critique. See Basden (2018a, 127–35) for a more detailed discussion of these, as well as how data mining can be understood.

*Research opportunity: information.* Investigate in detail how Floridi’s open problems for the philosophy of information may be addressed. See <http://dooy.info/ext/floridi.html> for initial ideas.

In similar vein, what are *documents*? Basden & Burke (2004) set out similar problems that beset conventional views of documents—likewise often seeking an understanding that presupposes substance and process—as well as other problems about writer and reader, context, history and literary works. Since the 1930s debate has raged about whether, for example, stones in museums or animals in zoos are documents, and on what basis we may decide.

Basden & Burke argue for seeing documents as enkaptically bound aspectual beings, with a full structure of individuality (§4–3.4) involving nearly all aspects, of medium (physical aspect), marks (psychic aspect), signs or symbols (analytic), syntactic structures (formative) and content that is argument, story, instructions and so on (lingual aspect), as well as material components (organic aspect), agreement on what words might mean (social aspect), economic aspect of parsimony, aesthetic aspect of harmony and nuance, juridical aspect of due to author, reader and topic (e.g. accuracy), ethical aspect of generosity and pistic aspect of incompatibilities in cultural worldviews between author and reader. A document is all of these.

Dooyeweerd’s philosophy, and especially as developed into the model of meanings outlined in §4–3.11, allows us to address questions that include the following:

1. Discussions of what is, and is not, a document which began in the 1930s and continue today. Much confusion arises from aspectual analogies (metaphors) of the lingual in other aspects, and the meaning-oriented special role of the lingual aspect that links it to meaningfulness. A photograph of a stone may be a document, insofar as its purpose is to communicate or record, but if its main purpose is aesthetic,



it is a ‘document’ (metaphorically). We read a book (lingual functioning of signification-meaning), but we ‘read’ a landscape (analytic functioning of interpretation-meaning). Similarly most works of art are not documents but ‘documents’. However, since the aesthetic aspect is post-lingual, there is usually some intentional communication in the artwork, whether explicit or hidden, and hence there is a genuine document-ness in many works of art.

2. The role of author and reader (problems raised by Gadamer and Ricoeur) may be seen in terms of lingual functioning with the document as object, prior object to reader, generated object to author (§4–3.9). Social context, culture and assumptions may be seen as social and pistic aspects of the document and its object-functioning as two aspects of a wider shared ‘ocean’ of meaningfulness.
3. Changes in a document (torn pages, margin notes (NC,III, 3)) may be seen as changes in various aspects that do not undermine the document’s functioning as lingual prior object.
4. Literary works may be understood in terms of lingual and post-lingual aspects taken together, and their variants as changes meaningful in the post-lingual aspects, especially the aesthetic, facilitated foundationally by changes meaningful in the lingual aspect (inter-aspect dependency, §3–2.4.4.

What has bedevilled discourses around both information and documents is the immanence-standpoint (§5–3.1) in philosophy, which separates meaning from reality (c.f. §4–2) and hinders theoretical understanding of things as encountered in the reality of everyday experience.

#### **11–4.4 *Complex Notions Incorporating Antecipations and Retrocipations***

A concept like trust is even more complex than those of information and documents. Trust is important in business, information technology and the Internet, in religion, philosophy and throughout everyday life, taking widely different forms in each—and yet is still recognisable as trust.

Stephen McGibbon, with a background in several of these fields, took on the challenge of understanding trust, using Dooyeweerd’s philosophy to do so. McGibbon (2018) analyses a wide literature and concludes that trust is highly complex, involving almost every aspect, but is qualified by the ethical aspect (voluntary vulnerability). (Most would think trust is pistically qualified.)

McGibbon found not only that the simple single-aspect understanding was inappropriate, but also that the simple idea of individuality structure (a qualifying aspect relating to foundational aspects and those it anticipates, §4–3.5) was not adequate to understand complex issues like trust. He needed a way to do justice to what each author says about trust, and separate out their ideas in a way that is minimally dependent on his subjective assessments, which may be communicated to others and also back to himself when he returns to earlier interpretations. By a process described



in §11–7.5, he arrived at a method that involves triples, not just pairs, of aspects (“cipation triples”). On reassessing the trust literatures in this way, he was able to obtain a fuller, more reliable picture of what authors believe to be meaningful about trust, which he could defend. He summarised this in a cell diagram shown in Figure 11.4.

	Quantitative	Spatial	Kinetic	Physical	Biotic	Sensitive	Analytical	Formative	Lingual	Social	Economic	Aesthetic	Juridical	Ethical	Pistic
Nowak	■				■	■	■	■	■	■	■	■	■	■	■
Deutsch					■	■	■	■	■	■	■	■	■	■	■
Horsburgh	■					■	■	■	■	■	■	■	■	■	■
Garfinkel						■	■	■	■	■	■	■	■	■	■
Blau					■	■	■	■	■	■	■	■	■	■	■
Rotter						■	■	■	■	■	■	■	■	■	■
Held				■						■					
Luhmann	■	■				■	■	■	■	■	■	■	■	■	■
Coleman		■	■					■	■	■	■	■	■	■	■
Lewis and Weigert	■				■	■	■	■	■	■	■	■	■	■	■
Shimmel	■														
Baier						■	■	■	■	■	■	■	■	■	■
Nussbaum				■	■	■	■	■	■	■	■	■	■	■	■
Gambetta					■	■	■	■	■	■	■	■	■	■	■
Hardin							■	■	■	■	■	■	■	■	■
Seligman								■	■	■	■	■	■	■	■
Govier					■	■	■	■	■	■	■	■	■	■	■
Holton								■	■	■	■	■	■	■	■
Fukuyama									■	■	■	■	■	■	■
Misztal											■	■	■	■	■
Becker						■	■	■	■	■	■	■	■	■	■
Jones						■	■	■	■	■	■	■	■	■	■
Hertberg									■	■	■	■	■	■	■
Ricoeur				■	■	■	■	■	■	■	■	■	■	■	■
Brown									■	■	■	■	■	■	■
Flores and Solomon	■		■	■	■	■	■	■	■	■	■	■	■	■	■
Lagerspetz															
Sztompka															
Puddefoot				■	■	■	■	■	■	■	■	■	■	■	■
Miller				■	■	■	■	■	■	■	■	■	■	■	■
Uslaner									■	■	■	■	■	■	■
Nooteboom						■	■	■	■	■	■	■	■	■	■
Onora O'Neill										■	■	■	■	■	■
Möllering					■	■	■	■	■	■	■	■	■	■	■
Faulkner															
Zak					■	■	■	■	■	■	■	■	■	■	■
Todorov					■	■	■	■	■	■	■	■	■	■	■
Sennett															
Hosking	■	■													
Margalit															
Faulkner and Simpson					■	■	■	■	■	■	■	■	■	■	■

Figure 11.4 What is meaningful about trust: authors by aspect

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Such a plot can reveal several things about trust. (a) Almost every author conceives trust as intensely multi-aspectual, even though they might be regarded as focusing on one issue. (b) Most functioning is post-organic. (c) The kinematic aspect is mentioned only once. (d) Since the articles are in date order, we can see development. After Baier, the ethical aspect has been more recognised, and the juridical slightly less. (e) Lingual and aesthetic aspects are recognised more at the start and end than in the middle period. This confirms empirically his philosophical arguments (McGibbon 2018) that trust is ethically qualified.

Such an analysis offers a way to understand complex notions like trust in a way that takes account of a variety of communities of thought and practice and their historical development. It also offers a useful overview of literature, not unlike that of Joneidy (§11–2.2), but it took much longer than his did.

#### **11–4.5 Contributing Ideas to Philosophy**

Little has been discussed in this book about research that contributes to philosophic thought. In this section so far, we have used Dooyeweerd’s philosophy to help clarify ideas, like Introna & Ilharco (2004) used Heidegger’s philosophy to understand screens (§5–1.3). Now we reverse this, letting ideas from research contribute to philosophy. For example, McGibbon’s idea of cipation triples might enrich the Dooyeweerdian understanding of things.

Breems (2017) makes what might be a more fundamental suggestion. Dooyeweerd’s understanding of the subject-object relationship seems to allow only humans to function as subject in the post-psychical aspects, but how do we understand a computer program, especially one which incorporates artificial intelligence? For example, GPS software might “find a route” taking account of traffic restrictions; is it not thereby functioning as subject in the kinematic, analytic and juridical aspects? What about avatars in computer games, which are highly intelligent?

Basden (2008a) argued that the computer is still functioning only as object, even though in complex ways, in that it requires humans to program it, start it and feed it information, even though perhaps indirectly. Breems (2017) argues this is unsatisfactory and, while recognising the necessity of such human functioning, suggests a philosophic notion of *subject-by-proxy*. In this mode, the computer program functions as though subject in any aspect(s) even while dependent on humans. He shows how useful this idea can be in thinking about programmer responsibility. I now agree with Breems against Basden! It can help us understand the activity of such things as institutions.

#### **11–5. Using Dooyeweerd to Discuss Research Methods**

Researchers must argue for their choice of research approach and of methods used for data collection and analysis, in order to allow others to critically evaluate whether it is reasonable to rely on their findings. The appropriateness of research methods can be aligned with aspects (Table 8.1), but actual experience of using Dooyeweerd during this stage is sparse.

This lack is what McGibbon (2018) struggled with in his research on trust. Every epistemological approach depends, itself, on trust, and so already takes a stance on what trust is—and hence will distort its study of trust. Recognising that “every piece of research is unique and calls for a unique methodology” (Crotty 1998, 14), he devised his own methodology rather than adopt an existing one. He argues that he needed a research philosophy that is able to:

- accommodate multiple epistemologies, even if incommensurable,
- contextualise the differences between them,
- accommodate their different norms for validity of findings,
- provide taxonomic consistency, which implies a common ontological basis, and
- fulfil all the normal conditions for generating new knowledge.

He argues that Dooyeweerd’s philosophy can achieve all these. He refers to Basden (2002), which presents Dooyeweerd among the critical theorists, who argue for the ideological (Dooyeweerd: “religious”) basis of knowledge, and to Basden (2011a), which shows how Dooyeweerd can bring incommensurable approaches together.

Basden (2011a) does not actually use Dooyeweerd to select research approaches, but does show we can use Dooyeweerd’s notion of three-part Ground-Idea (§7–1) along with Dooyeweerd’s suite of aspects, to situate apparently incommensurable approaches within a wider picture. In doing so, this at least exonerates Dooyeweerd’s philosophy as a useful alternative approach to the traditional dialectical approaches, such as the positivist, interpretivist and socio-critical approaches. Basden’s study is described in §7–3.1.

Using Ground-Idea elements linked to aspects, as in that study, could potentially be used to review, critique and select, and maybe even construct, a research approach that is suited to research, especially research for which no conventional philosophy fits well (§7–4.1).

Regarding methods for data collection and analysis, I have not yet found any concrete experience of using Dooyeweerd to *select* or formulate, and *justify*, these. This may be because it is only recently that experience using Dooyeweerd for collecting and analysing data has become broad enough to give us authoritative views on what might and might not be suitable. That recent experience, of using Dooyeweerd to inform *actual methods* of collecting and analysing research data, is discussed in the next two sections. They present quite a variety of methods. From now on, therefore, the experience presented below might be referred to when choosing and justifying research methods.

## 11–6. Data Collection With Dooyeweerd

The main experience of using Dooyeweerd in collecting research data is by interviews in the social sciences, seeking to understand what is meaningful to people being researched. This section discusses two methods of interviewing

and one of designing questionnaires, using Dooyeweerd's aspects. Observation research and research in the natural sciences are discussed later (§11–8), though more speculatively.

When data is collected about human behaviour, whether at psychological, social or societal levels, every aspect is potentially relevant in principle and intertwined with all the others (§3–2.4), since humans function as subject in all aspects. So, no aspect can be ignored, *a priori*. Unless the remit of a study has been deliberately constrained, we should normally seek data from every aspect in research involving humans. This is so whether the data comes via observations, questionnaires, interviews or written or other material. Even in psychology, where the focus is psychical or cognitive, the retrociprocity impact of later aspects is acknowledged in psychologies of belief, art, and in, for example, in Maslow's psychological theory of motivation and Vygotsky's psychology of art.

### *11–6.1 Using Aspects to Design Questionnaires*

There are two main ways in which questionnaires can obtain data from all aspects. One is to invite “any other comments”—but that is haphazard. The other is to design the questions asked to cover each aspect.

One of my master's students, Aisha Abuelma'atti, tried this in a questionnaire for users of multimedia in several art galleries and museums (Abuelma'atti 2007). She posed 12 Likert scale questions, each of which expresses the kernel meaningfulness of an aspect from psychic to pistic, with five of them inviting open comment. Her questions are shown below. They were designed with the following criteria in mind: maintaining interest, number and order of questions, getting lost or confused, layout, making clear what to do and the wider context in which the questionnaire is posed. The last is an open (non-aspectual) question.

1. Overall, how satisfied are you with your use of this multimedia system? (psychic)
2. Did you come away with clear or confused information? If very clear or confused, please briefly explain why this was. (analytic)
3. Did you get what you wanted of the multimedia system? (formative)
4. To what extent did the multimedia communicate well with you and give you the feeling that it understood you and you understood it? (lingual)
5. Was there anything about this multimedia that was socially inappropriate? Please give an example. (social)
6. To what extent did you feel the multimedia was efficient or wasteful? Please give an example. (economic)
7. Did you enjoy using the system? (aesthetic)
8. Did you get the feeling that the whole system was harmonious and held together well, or not? (aesthetic)
9. Did the system give what you felt is due to you? (juridical)

10. Did you feel that the multimedia system served your interest or its own interest? What made you feel so? (ethical)
11. Was there anything that either disturbed or supported your basic belief? (pistic)
12. To what extent would you have preferred a human being standing for information rather than an information system? Why? (no aspect)

She discusses several benefits and challenges of using aspects to design questionnaires, including comments from two multimedia experts. Dooyeweerd's suite of aspects was easy to learn and use, put evaluation into sharper focus and helped the researcher to understand more deeply the complex issues around multimedia systems. It surfaced many repercussions and revealed gaps in her earlier attempts to formulate a questionnaire. She found that Dooyeweerd's order of aspects (§3–2.4.5) provides a sequence of questions that feels natural, beginning with how the respondent feels. In addition to evaluation, the aspects could help with design (of multimedia systems).

The main challenge was that it led to a questionnaire that omitted detail, which is essential to design, but the aspectual approach would be a good entry point. The breadth of meaningfulness of each aspect meant some respondents asked, "What do you mean?" when asked some questions, especially around the ethical aspect—but the answers as a whole gave useful information about it.

*Research opportunity: questionnaire design.* There is a need to explore the use of Dooyeweerd's aspects in questionnaire design more widely and in more depth. For example, might each aspectual question then lead to more detailed ones in interactive questionnaires?

### 11–6.2 MAKE: Multi-Aspectual Knowledge Elicitation

Disciplines involve knowledge, some that can be articulated and shared and some that is tacit and not easily shared. Eliciting knowledge of a discipline involves "holistic . . . appreciation of things in their totality: Polanyi refers to this as an 'indwelling'" (Yates-Mercer & Bawden 2002, 22), in which details and particulars are seen in wider contexts.

Knowledge is "multifaceted" (Kakabadse et al. 2001, 141); facets of a jewel cut across each other at angles that are given by the nature of the material itself, and yet relate to each other. So with knowledge. It is not enough to elicit the main parameters, but, as Jacob & Ebrahimpur (2001, 78) express it, "One needs to have as broad a knowledge base as possible. It is the outer parameters that one must have knowledge about." Multiple facets and outer parameters are especially important in interdisciplinary fields. Therefore, two things are needed: (a) How do we identify all the facets and outer parameters of the knowledge, and especially those that are often overlooked? (b) How do we relate disparate facets to each other?

Various methods have been employed, which are discussed in Winfield & Basden (2006), such as cognitive mapping (Eden 1988), Soft Systems Methodology (SSM) (Checkland 1981) and Strategic Assumptions Surfacing and Testing (SAST) (Mason & Mitroff 1981). Though these have been developed through the decades, they do not fully satisfy the needs. Cognitive mapping encourages the expression of relationships but focuses on detail and offers no way of finding “outer parameters”. SSM can find some “outer parameters” with its emphasis on multiple perspectives, but finds conflict difficult and can suffer from groupthink. SAST makes conflict into a virtue that forces differences (facets) into the open, but it is often too threatening to allow those who are sensitive (e.g. those with Asperger’s syndrome) to express their knowledge fully (Attwood 2001).

Mike Winfield (Winfield 2000; Winfield et al. 1996) developed the *Multi-Aspectual Knowledge Elicitation* (MAKE) method, which seems to fulfil the needs above, in encouraging “outer parameters” and overlooked facets and assumptions to surface and the expression of relationships without an adversarial approach. It is based on Dooyeweerd’s aspects. Facets are aspects, which inherently relate (inter-aspect coherence, §3–2.4), and the totality of aspects (§4–3.1) can disclose outer parameters. Since there is no inherent conflict among aspects (§3–2.4.2), surfacing assumptions need not depend on an adversarial approach. So Winfield developed the following method.

Typically, a MAKE interview involves an interviewer and a participant who has expertise in the topic and lasts around one hour. The interviewer guides the participant in explaining their expertise with non-leading questions. Winfield devised seven steps to guide it:

1. Introduction (e.g. obtain statement of requirements, or use some other entry point) and explain the kernel meanings of aspects, using an aspectual template, which is often placed on the table.
2. Identify a few important aspects; for a veterinary practice, this might be organic-biotic and economic.
3. Focus on one of these aspects and specify any laws, axioms, data, definitions and constraints that apply to the domain.
4. Identify as many concepts as possible that lie in this aspect. (Note: May need to check the concepts at a later stage for which aspect makes them meaningful.)
5. Apply low-level abstraction to each concept, which needs, or is thought to need, exploring. Eventually, concepts will emerge that are not meaningful in existing aspects, so the participant is asked which aspect makes them meaningful.
6. Repeat steps 3–6 as necessary.
7. Use the aspectual template to identify any new aspects, which may apply to the concepts specified and build bridges between concepts and aspects, and return to step 3.

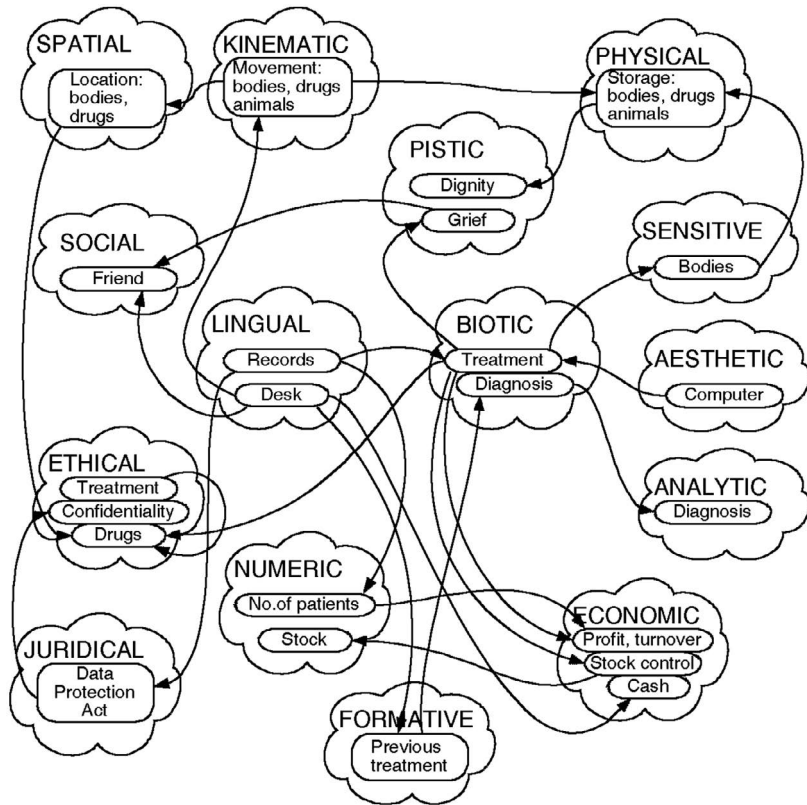


Figure 11.5 Typical aspectual map (MAKE)

The participants are in charge of identifying aspects that make their concepts meaningful, not the interviewer, who avoids leading questions. Useful prompts are “Why?”, “When is this not meaningful?” and “What else?” As Winfield’s discussions proceeded, he would draw an *aspectual map* expressing the concepts that emerge, their relationships and the aspects that make them meaningful, and check it with the participant. Figure 11.5 shows a simple example.

Winfield applied this to six case studies (tree planting, sustainability, veterinary practice, Islamic food laws, youth advice and management of a local housing business unit). Some of his students were involved as interviewers.

Several capabilities of MAKE are discussed by Winfield (2000) and Winfield & Basden (2006) and summarised in §11-6.4.

### 11-6.3 MAIT: Multi-Aspectual Interview Technique

The motivation behind Suzanne Kane’s research, from which the Multi-Aspectual Interview Technique (MAIT) emerged, was to explore why mature students return to education (Kane 2006). MAIT was based on MAKE and



operates in a similar way, but is future-oriented, exploring hopes, fears and aspirations, etc. rather than knowledge accumulated from past experience. MAIT offers an approach for supportive interviewing, to help interviewees express what is meaningful to them.

The participants in Kane's study were seeking to acquire skills with information technology (IT), some returning directly to higher education (university) and others to further education (college, which prepares them for university). Both were interviewed in the context of their everyday lives. Whereas some interviewees are used to being interviewed and thinking conceptually, many are not. The interview situation can be perceived as threatening, especially for those from less privileged backgrounds. So there is a need for supportive interviewing techniques that help interviewees to express what they really believe, know or feel, and the rich nuances therein.

Sixteen university and thirteen college students were interviewed, using Dooyeweerd's aspects. Various measures were taken to put the interviewees at ease, then the interview process followed steps not unlike those in MAKE above, including explaining Dooyeweerd's aspects, with a list thereof offered, so the interviewee could be in charge of interpreting what they said. As discussed in §11-6.4, whereas a MAKE-like interview sufficed for some students, others preferred to go through the aspects, one-by-one in any order. Towards the end, the interviewer prompts the interviewee on aspects not yet mentioned, but without pressure to respond.

#### *11-6.4 Practical Reflections on MAKE and MAIT*

Both Winfield (2000) and Kane (2006) discuss implications for the practice of interviewing using MAKE and MAIT.

1. On conceptual ability. Whereas Winfield's interviewees were all comfortable when thinking about concepts and relationships, Kane found that whereas university students were likewise, college students were less comfortable. They responded better to different approaches during the interview. Interviewees comfortable with conceptual thinking could offer issues related to aspects or could be asked, "To which aspect does [that issue] refer?" From such issues and aspects, visual maps were built up. By contrast, the college students were happier when asked to simply go through the aspects one by one and speak about each in turn, in any order they wished. This *seems* more directive, but it allayed fears the interviewees might have had about misunderstanding or not doing things 'correctly'. The college students preferred verbal transcripts to diagrams.

2. Ease of learning. MAKE and MAIT both seemed easy to learn by the interviewees, and even by potential interviewers, some of whom were Winfield's students. The fact that most interviewees were 'ordinary people', rather than academics, and could readily wield Dooyeweerd's aspects, is interesting, supporting Dooyeweerd's claim that the kernel meanings of the aspects are grasped by the intuition rather than by theoretical thought (§4-3.13), a claim that has been supported by Lombardi (2001) and Gunton et al. (2017). Whereas those comfortable with conceptual thought were happy



with a list of aspect names and conceptual keywords, the college students responded better to what Kane called *aspectually informed statements*, with more personal wording. Example: Instead of “If the answer relates to ‘role in society’ you may wish to reference this social aspect along with others” (conceptual), Kane used, “When I ask you about your ‘role in society’ I will link your answer to this social aspect” (more active and personal). With this, the interviewees quickly focused on the meanings rather than on the names of the aspects.

3. Emerging knowledge. Because of the innate coherence of aspects (§3–2.4), it is natural to move between aspects, so that concepts emerge that belong to different aspects, along with relationships both within and across aspects. In most cases a variety of aspects appeared quickly and easily. In MAKE at least 13 out of the 15 aspects were identified by the end. In MAIT, most of the 29 students gave information about every aspect from the psychic-sensitive to the pistic without any prompting, and all but one did so when prompted by the interviewer. In MAIT, all interviewees were invited to speak of issues without reference to aspects; only four students did so. These findings confirm that, in education and the professions at least, Dooyeweerd’s aspects are meaningful to both conceptual and non-conceptual thinkers, and that Dooyeweerd’s suite of aspects is complete enough for practical interviewing.

4. Everyday issues. Both MAKE and MAIT encourage the elicitation of everyday experience. Analysis of the interview transcripts in MAIT showed over three times as many everyday issues emerged as professional or theoretical issues (297 to 88). Unlike Ybema et al. (2009), who believe it is necessary to first focus on the extraordinary in everyday life, use of Dooyeweerd’s aspects allows interviewees to focus on the ordinary. Unlike Ganguly (2002), who tries to rouse interest in the everyday by reference to the salacious, aspects enable focus on the wholesome.

5. Hidden issues and tacit knowledge. Both MAKE and MAIT proved very adept and efficient at eliciting tacit knowledge, but at different levels.

MAKE elicited whole swathes of an overlooked aspect that is taken for granted—the “outer parameters” alongside main ones. It can be used for making *Weltanschauungen* visible, but has the advantage over SSM of stimulating participants to look beyond the perspectives held by the group. MAKE has several advantages over SAST. Not requiring a group setting, it does not depend as heavily as SAST does on the quality of dialogue and is inherently non-adversarial. The participant is stimulated not by other individuals but by the suite of aspects that transcends all, which results in greater openness and less tendency to defend positions. Unlike both, MAKE helps to evoke multiple perspectives within a single individual, because it focuses not on the ‘who’ but on the ‘why’.

MAIT elicited details, many of which were hidden. They can be hidden, usually unwittingly, by the researcher and by the interviewee. The range of issues sought can be limited by the researcher’s theory, attitude, assumptions or what interests them. This can be ameliorated by encouraging the

interviewee to consider every aspect, since each provides a space in which the often-unseen issues can be present alongside more visible ones. MAIT is thus sensitive to the unexpected. On the other hand, issues might be hidden by assumptions made by the interviewee about what the researcher would find interesting, by embarrassment, defensiveness, fear of ridicule, limitations in linguistic resources, or the general difficulty in expressing what is tacitly held can (Stommel & Willis 2004; Mooney et al. 2014). Some are addressed by aspectual analysis, in Section 11–7. Kane found the others could be addressed during the interview by going through all the aspects in turn.

Both allow hidden issues to be revealed more quickly than the ‘slow-motion’ approach of Baer (2008) or the lengthy ethnographic processes advocated by Paxton (2012).

6. Multiple participants and interdisciplinarity. MAKE can be undertaken with several participants, their maps being shared. This offers richer understanding and mutual respect, because each can see the meaningfulness of the other ideas and thus the rationality of each (§4–3.6). It separates real differences from those created by different naming conventions. Focusing on aspects de-emphasises differences of personality or organisational role, so conflict is reduced, and the views of non-dominant participants is more readily accepted. This helps to promote interdisciplinary communication.

7. Acceptability. Participants in both MAKE and MAIT expressed appreciation at the end for the way the aspects had opened their awareness. Comments given at the end showed the students had come not only to grasp the kernel meanings but to value them: “It makes you realise you’re on track.” “It gets you thinking.” This does, of course, depend on the researcher’s attitude, in that it is possible to use the aspects in a dominant way. Though Kane’s (2006) study engaged only 29 interviewees and Winfield’s (2000) only eight, and further study is recommended, it shows that the “voice” of the interviewee can readily be heard (Paxton 2012).

8. Interpretation of aspects. Because the introduction to the aspects is usually brief, interviewees will often have an incomplete understanding of their meaning. Mild misunderstanding does not seem to matter, however, because both interviewer and interviewee operate with intuitive rather than precise understandings, and in many cases when the interviewee is asked to explain, their choice of aspect has seemed justified. The main reason for using Dooyeweerd’s aspects is to encourage interviewees to open up and express things that are often taken for granted.

*Research opportunity: hidden issues.* Empirical test of both methods, for example to investigate quality of hidden issues obtained, has yet to be undertaken.

Both Winfield and Kane found that the intuitive nature of aspects facilitated understanding and conversation and that presenting aspects to the interviewees gives them responsibility and freedom in interpreting aspectual meaning.

### 11–6.5 *Philosophical Reflections on MAKE and MAIT*

A number of philosophical reflections on both MAKE and MAIT may be made.

Both MAKE and especially MAIT treat text and context as both in the same ‘ocean of meaningfulness’. There is no need to recouple them (§4–3.11.2), so the hermeneutic cycle becomes an attitude rather than a sequential iteration between them.

What is often called “co-construction of data” is no construction process but an intuitive sharing of meaningfulness in the same ocean by interviewer and participant.

Interviewing is challenged by barriers of culture, class, background and power. In MAKE and MAIT, researcher and interviewee are both subject to the same set of aspects (§4–3.10); neither party has authority in relation to them, so their use does not constitute a power relationship. Since the intuitive grasp of aspectual meaningfulness transcends culture, shared understanding across cultures or through barriers of class and background is possible (§4–4.2), without romanticisation of class identities, if attention is directed to the wide range of everyday issues beyond class. In such ways, MAIT especially proved to be emancipatory. Abuelma’atti’s aspectual questionnaire also seemed to reach across cultures.

It might be objected that it is the researcher who provides the suite of aspects. That must be taken into account, but the fact that the aspects are all ones which ordinary people can grasp intuitively mitigates against this.

Some suggest that using a ready-made suite of aspects might inhibit the interview or distort the content that emerges, but this does not seem to be the case. Surprisingly, MAKE and MAIT seems to liberate and empower the participants, promoting individual awareness and encouraging them to say things that they felt slightly uncomfortable or embarrassed about. We attribute this to the fact that the aspects constitute a framework that the participant can ‘hold onto’ because it transcends their situation.

*Research opportunity: Grounded Theory.* It might be that some version of MAKE or MAIT can contribute to Grounded Theory (Glaser & Strauss 1967). Explore this. The aspects are *not* prior categories (which GT tries to avoid) but rather wide spaces of meaningfulness in which things may be brought to light.

### 11–6.6 *Eliciting Detailed Expertise*

As discussed in §10–5, knowledge elicitation resembles research, and Gareth Jones (2007) employed an aspectual approach to eliciting knowledge for knowledge based systems (KBS) that encapsulate principled knowledge about the development of policies for sustainable urban futures. This is highly complex, interdisciplinary knowledge. He defines a systematic method for knowledge elicitation, which might be of use in some research.

Jones conceptualises the activities in question, elicits detailed and contextual knowledge and develops a provisional knowledge base, testing it with experts in the field of sustainable policy. Each of these stages has several steps during which aspects are considered one-by-one (pp. 221–3). With this method, Jones constructed nine knowledge bases of varying degrees of complexity, for assessing sustainability in housing (two), transport, social progress, environmental protection, employment, minerals, development control and town centres. Figure 11.6 shows a screenshot of one of the simpler ones, on environmental protection policy, where boxes signify propositions about a planning situation and lines, the inference relationships between them, both elicited from experts.

Knowledge bases require knowledge in the form of precisely defined “If-Then” inferences, which were communicated by experts or derived from what they said. To achieve this, Jones sought to elicit the laws of each aspect, backed up by knowledge of relevant entities. He found that the notions of qualifying and founding aspects were not useful for this, but that a fully multi-aspectual approach was required. The experts confirmed the comprehensive nature of the expertise Jones elicited when they ran his KBSs; the

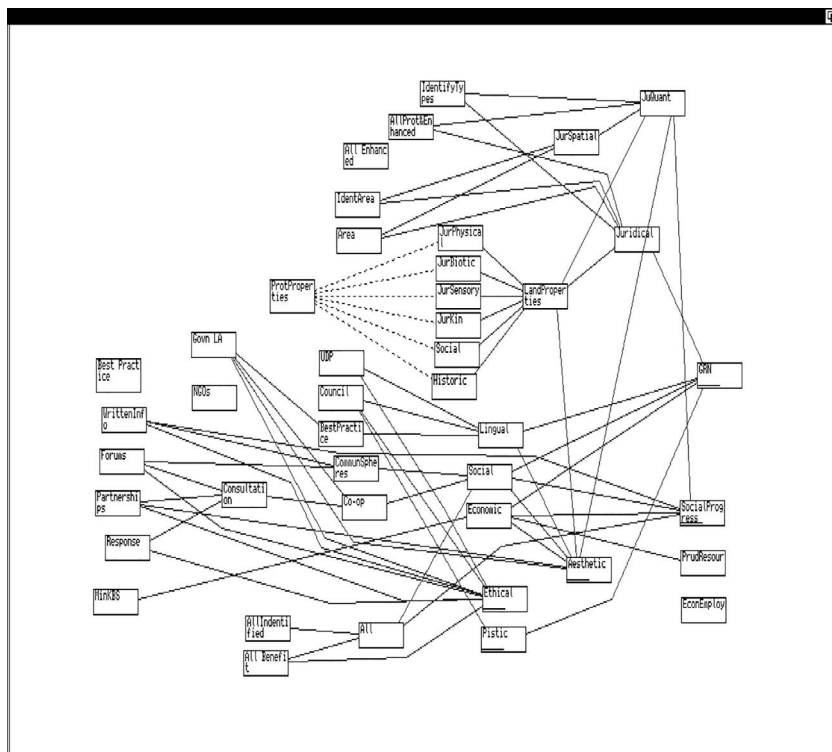


Figure 11.6 Knowledge base on environmental protection policy

KBSs raised questions about issues which the experts had not thought about and which previously would not have been considered.

### 11–7. Using Dooyeweerd in Data Analysis

Dooyeweerd’s philosophy has been used to analyse both data collected in open interviews that have not been guided by Dooyeweerd’s aspects and texts. It has proven adept at deriving findings from data by a process that has become known as *aspectual analysis*.

Aspectual analysis employs Dooyeweerd’s aspects to reveal what is meaningful in written or spoken material. It brings all three of Dooyeweerd’s starting-points to bear on data analysis—the source’s everyday experience and the cohering diversity of what is meaningful to them (Chapters 2, 3, 4)—and this imparts a different tone to analysis, which has proven particularly useful in interpretive research and interdisciplinary situations in practice. It can take several forms, as discussed in the following subsections.

In many research cultures, quantitative and qualitative are seen as distinct methods, though *mixed methods research* has become popular. From a Dooyeweerdian perspective, the distinction is not fundamental, since both alike are abstractions away from reality, and mixing them is commonplace.

Though what is presented here is aspectual analysis of interview transcripts and texts in various literatures, it can be used more widely. It can be used to analyse data from observation, field studies and experiments, especially when contextual data is also collected (§11–8). It can even be used during conversations, as a continual intuitive awareness of which aspects are being mentioned and which are not. The following, however, are drawn from the experience of some of my erstwhile research students, and others, many in the field of information systems use. Note: Most aspectual interpretations here are those of other researchers and might differ from my own.

#### 11–7.1 *Simple Aspectual Analysis*

The utterances in an interview may be analysed using Dooyeweerd’s aspects in order to disclose what was meaningful to the interviewee. The following examples are selected from Kane’s (2006) study of student aspirations.

- “Committed to going to university” (pistic aspect);
- “Ethical is part of my character, to give back when I take” (ethical aspect);
- “Respect is necessary and the responsibility is to learn” (juridical aspect);
- “I want to balance my life toward fulfilment” (aesthetic aspect);
- “Wants to make some money in IT” (economic aspect);
- “Able to speak out more in a group of mature students; feels more confident” (lingual, social aspect);
- “Student is still the same person, but being at college is helping the student to progress” (formative aspect);

- “Distinctions about qualifications for work, you can’t get the job without the qualifications” (analytic aspect);
- “Always wanted . . .” (sensitive aspect).

We may notice several things.

First, aspectual analysis can reveal issues that might ordinarily be overlooked during analysis. For example, in a study of aspiration, whereas “Wants to make some money in IT” is obviously selectable as data to analyse, “give back when I take” might be ignored as a mere aside. To discipline oneself to assign aspects to utterances overcomes the analyst’s bias towards certain aspects.

Second, aspectual analysis can help fulfil Klein & Myers’ (1999) principles of recognising bias brought by the researcher and in the participants, which they noted are less often discussed. Aspectual analysis encourages discussing which aspects are overlooked in a study.

Third, such analysis demonstrates the nuanced complexity of aspiration. Aspiration, often treated as a simple, unitary notion, is inherently multi-aspectual, meaningful in a myriad of ways. Finding meaningfulness in all aspects stimulates the analyst to reflect more deeply on the phenomenon being studied. After the analysis from which the above is taken, Kane reflected on the role each aspect plays in aspiration; for example the formative aspect is about individual achievement, the social is about aspirations linked with family, and so on.

### ***11–7.2 Finding Hidden Meanings: What Motivated Seminal Papers***

What aspectual analysis does is to distinguish units of meaningfulness. These might be found not only in whole utterances, but also in phrases therein. Sina Joneidy took this line when he analysed the motivations behind seminal papers in the fields of information systems use (Joneidy 2015; Joneidy & Basden 2018) and health informatics (Joneidy & Burke 2018); see also §11–2.2.

Most seminal papers are motivated by highlighting previously overlooked issues, but motivations are sometimes not easily made explicit. Joneidy developed a reasonably systematic method for investigating motivations using Dooyeweerd’s aspects, because motivation is closely linked with meaningfulness. Motivation is of course pistic functioning, but what motivates authors is its target aspect(s) (§4–3.9)—something meaningful to the field that had not previously been given due attention.

#### ***11–7.2.1 The Method***

Joneidy would select excerpts from papers that indicate the wider meaningfulness of the paper. Most occur in the abstract, introduction and conclusion, but he would then scan the rest of the paper for others.

Motivation might be explicitly stated, as in “The purpose of this research is to pursue better measures for predicting and explaining use”. But indicators of motivation are often implicit. They may be detected from several things. One is statements about what has been lacking or normatively askew in previous thought, such as “given contradictory results in past studies . . . our focused reconceptualization of the construct should enable more informed research”. Another is the use of normatively loaded linguistic devices that tell the reader that what follows is likely to be important, such as “simple adoption of EHRs *does not necessarily* improve the quality of care” (Classen & Bates 2011, emphasis added). In this way, both semantic and pragmatic meanings are considered as indicators of wider meaningfulness.

Such excerpts were analysed to investigate which aspect(s) best accounted for what made each phrase meaningful or important. For example “pursue better measures” is a quantitative motivation, “contradictory” and “focused reconceptualization” are analytic motivation, and “improve the quality of care” is ethical and economic motivation.

### 11-7.2.2 *Results*

As with Kane, assigning aspects to pieces of text exerts a discipline that reveals meanings that might otherwise be overlooked.

In most papers, a pair of aspects seemed important. Where the pair is unique, because of the irreducible distinction between aspects, this was taken to indicate a genuinely new area of concern, perhaps a distinct paradigm, around which a coherent discourse subsequently develops. For example, Classen & Bates’ paper is about the paradigm known as Meaningful Use, which concerns itself with benefit (economic and ethical aspect) and distinguishes itself from those discourses concerned with conceptualisation or measurement. This might reveal *why* new paradigms arise, to augment the usual discussions of *how*.

Where a pair of aspects is shared, this is taken to indicate that the papers are addressing the same general issue and together indicate the same paradigm, even though they might make different contributions in other ways. Where one aspect is shared between two pairs, the shared aspect might be meaningful in different ways (different parts of its constellation). Example: The economic aspect (§9-1.11) was important in one paper as productivity and in another as benefits. Such analysis reveals subtle differences and similarities that are often overlooked.

New avenues for discussion might be opened up, in at least two ways. Absent aspects might predict discourses or seminal papers yet to emerge. Considering inter-aspect dependency (§3-2.4.4) can help identify how papers and their discourses might relate to each other. Example: Joneidy found distinct discourses around beneficial use (ethical, economic aspects) and full use of IT features (lingual, formative); since former aspects depend foundationally on the latter, dialogue between the two discourses would be salient.



Not only might Joneidy's method be useful in examining papers and discourses, it might be useful during the literature review phase of research. It might also be useful in research into historical sources, because the past and present both share the same surrounding, prior meaningfulness (law-side), even though the fact-side might be different.

### 11-7.2.3 *Challenges*

Joneidy & Basden (2018) reflect on challenges of using Dooyeweerd's aspects. (1) Sometimes, issues that are meaningful in one aspect could have been meaningful in others, so judgment is required. This is to be expected because of the multi-aspectual nature of all things and activities (§4-3.3, §4-3.8.2). (2) Differences of culture between author and analyst causes problems, especially when the aspect that makes an utterance meaningful is not immediately obvious but is revealed only by understanding subtleties in the use of words. However, if Dooyeweerd is correct that all share the same spheres of meaningfulness, then at least some cross-cultural understanding is expected (§4-3.11.1, §4-4.2). (3) On the other hand, when author and analyst are apparently from a similar background, real subtleties or nuances in meaning can be overlooked because of assumptions by either party. Assumptions may be surfaced using Dooyeweerd's aspects, as found earlier in MAKE and MAIT. (4) An inexperienced analyst might initially employ a simplified reading of aspects but, after a short time, understanding of the meaning of aspects can become intuitive. Even then, two analysts might have different views. This was ameliorated by examining not just the semantic definition of terms, but also what the writer was trying to achieve. (5) The theoretical analyst begins to treat the aspects as a tool rather than as something within which they dwell; this might distort understanding and assignment of aspects. (6) It can be difficult for analysts to explain the often subtle reasons why they have assigned one aspect rather than others. This is especially challenging when trying to share with those who know little or nothing about aspects, such as in mainstream media.

### 11-7.3 *Researching Everyday Down-to-Earth Issues*

*Down-to-earth issues* are issues that are meaningful in the everyday experience of those being studied. For example, (un)helpfulness of support staff is important to users of IT 'on the ground', whereas *high-level issues*, like cost, technological prowess or power relations, are of interest to management, IT suppliers and academics respectively but less directly meaningful to users. High-level issues dominate in most academic and professional literature, and down-to-earth issues are often mentioned only in passing.

However, researching down-to-earth issues is challenging, because down-to-earth issues are extremely numerous, variable and often hidden. Nevertheless, three studies have developed a way to study down-to-earth



issues using aspectual analysis. They are all in the field of information technology (IT) use, but the methods they developed can be applied more generally.

### 11–7.3.1 *The First Study*

Hawa Ahmad wished to unearth the down-to-earth issues that users of information technology (IT) encounter (Ahmad 2013; Ahmad & Basden 2013). Unlike Winfield and Kane, Ahmad did not use aspects while interviewing but only to analyse what was said.

She undertook qualitative analysis of transcripts of open interviews, using standard coding methods, to organise unstructured data, and then interpreted these using Dooyeweerd's aspects in order to identify which aspects make each phrase or utterance in the interview meaningful. She assumed each text might be meaningful by multiple aspects, not just one primary aspect. Example:

*Question: If you have more things to do at one time, how do you handle the pressure?*

*Answer: I know I have work to complete [Formative] and it is my responsibility [Juridical] so I'll do it. I will do it by priority [Analytic], which one needs to be completed first [Juridical]. Then at a later stage I will do the rest [Formative].*

Each aspect reveals a down-to-earth issue in the life/work of the interviewee.

In addition, meaningful issues might be deduced with the help of aspects by those who know the context, such as the background reasons for prioritizing tasks. Ahmad deduced an aesthetic aspect (prioritizing helps completeness and work enjoyment) and a social aspect (prioritizing helps other staff). Aspectual analysis very readily reveals multiple meanings, not just between different participants as Klein & Myers (1999) stress, but also within each participant.

Ahmad's (2013) approach helps uncover *indirect issues* that affect the quality of information systems use but which are not recognised in the literature, because often the utterances that refer to them do not refer directly to the system that is being studied. For example, one interviewee mentioned transport (p. 154): If there is a problem, they arrive late and upset and then cannot properly focus on their tasks (which uses the system), and until they arrive others have to cover for them and might not know their use of the system so well. Aspectual analysis helps the analyst not only take such issues seriously, but forces the analyst to reflect on why they are important to the interviewee: a juridical-psychical-social-formative-ethical complex behind the kinematic of transport.

Ahmad undertook a similar aspectual analysis of issues mentioned in academic literature, which showed that the literature is biased towards certain aspects and away from others; see also §11–7.3.6.

11–7.3.2 *The Second and Third Studies*

Ahmad's down-to-earth approach was used in two other research projects to explore everyday issues. They confirmed its power but also developed it in important ways.

Ghadah Khojah studied down-to-earth issues in use of electronic health records (Khojah 2013, 2018). Her analysis of health informatics literature shows there was a need to *reveal* down-to-earth issues (as distinct from high-level ones), to *uncover* hidden issues and to find a way to *classify* them. She argues that standard conceptual frameworks like Actor-Network Theory do not facilitate all three, but Dooyeweerd's aspects promise to do so. So she employed Ahmad's down-to-earth approach, interviewing healthcare workers (nurses, physicians, clerks, etc.) in four hospitals in the Kingdom of Saudi Arabia. Excerpts from the interview transcripts were analysed aspectually to find what was meaningful in both questions and answers (see below for explanation of Q, A, X). Example:

*Questions: When do you check the file? [Q, formative, process] Where do you keep the patient files? [Q, spatial]*

*Answer: Well, sometimes I have it on my counter [A, spatial] because I try to get these things done [X, formative] before the doctor round [X, economic: time limit] and all that mess [X, economic, time-wasting]; the file check begins before the doctors' round [A, economic].*

This gave her what she called "*aspectual issues*" (e.g. time limit because of doctor), which are issues that are meaningful in one (main) aspect of the life/work of the interviewee. These were collected together by aspect, to give a base of data for quantitative and qualitative analysis of what healthcare workers find meaningful about working with health records. Like Ahmad, she sometimes deduced issues, but far less often.

Opeoluwa Aiyenitaju interviewed teachers in three primary schools in the UK to study their down-to-earth experience of using IT in classrooms (Aiyenitaju 2018; Aiyenitaju & Basden 2017). She argues that extant frameworks are not adequate to handle the *diversity* and *depth* in everyday, down-to-earth issues teachers face, but that Dooyeweerd is. Early interviews showed the importance of teachers' *values*, so she also studied values by aspectually analysing value-statements made by teachers, to reveal a richer mix of types of values (in many aspects) than is conventionally discussed (§4–3.7).

Using a similar method to that of Khojah, Aiyenitaju undertook aspectual analysis of excerpts to obtain aspectual issues, to form a similar base of data. She learned an important lesson: At first she analysed the *words* used, but then realised it was important to analyse the *broader meaning* of each utterance, so redid her analysis.

These two studies differ from Ahmad's in two important ways. First, both distinguished direct answers to interviewer questions from *extra, spontaneously volunteered information*, perhaps as opinions or stories. It

was expected that whereas direct answers to interviewer questions would be about issues meaningful to interviewers, the extra information would better express what is meaningful in the life and work of the interviewee; see §11–7.3.5 for confirmation of this. In the excerpt from one of Khojah’s interviews above, “Q” indicates an aspect of a question, “A” of a direct answer and “X” of extra volunteered information. Second, whereas Ahmad had undertaken qualitative coding *before* aspectual analysis, Khojah and Aiyenitaju performed it *after* aspectual analysis. This is discussed later.

### 11–7.3.3 *Quantitative and Qualitative Analyses*

Khojah and Aiyenitaju analysed their aspectual issues quantitatively and qualitatively in several ways. First, they simply counted issues per aspect, to yield an *aspectual profile* of what interviewees found meaningful (in healthcare and teaching), usefully depicted as a bar chart. Figure 11.7 shows Khojah’s results for the relative importance of each aspect in everyday work with healthcare records.

It can be seen that formative, lingual and juridical issues are the most meaningful (most aspectual issues; most often mentioned) with economic and analytic running up. Biotic-organic, quantitative, aesthetic and ethical are least meaningful.

Aspectual profiles immediately prompt the question, “Why?” Why are biotic-organic issues not mentioned by healthcare interviewees devoted to health? Khojah suggests that in discussing healthcare records (not patients), health issues are taken for granted. So might ethical issues be. Such

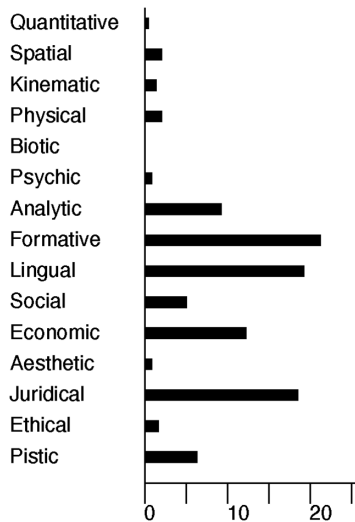


Figure 11.7 Aspectual profile: relative importance of each aspect (%) in work with healthcare record

possibilities might stimulate directed research, which might uncover hidden down-to-earth issues in the culture among healthcare workers.

Why are formative, lingual and juridical most meaningful? Emphasis on the juridical, lingual and formative aspects might be expected in any profession, characterised by legal duties, dissemination and achieving defined objects, but examination of the actual down-to-earth aspectual issues finds differently. Khojah undertook a qualitative coding of issues in each aspect separately and found that juridical issues cluster around Proper Working, Proper Documentation, Nurse Responsibility, Accessibility, Other Staff Responsibility and Proper Patient Care—issues of appropriateness and down-to-earth responsibilities rather than of formal legality or policy.

#### 11-7.3.4 Comparative Analyses

Both Khojah and Aiyenitaju used their collected data of aspectual issues to investigate differences between cohorts. Khojah studied differences between hospitals, between users of paper and electronic records, between nurses and other healthcare workers, and between nationalities. Aiyenitaju studied differences between schools, genders and school years. Figure 11.8 shows the aspectual profiles for Aiyenitaju’s three schools.

In comparing aspectual profiles, it is advisable to look at overall patterns, not precise quantities. This shows that School A had more emphasis on the formative and economic aspects than had Schools B and C, and less on the social, while School C has the smoothest, flattest profile, with no dominant aspect.

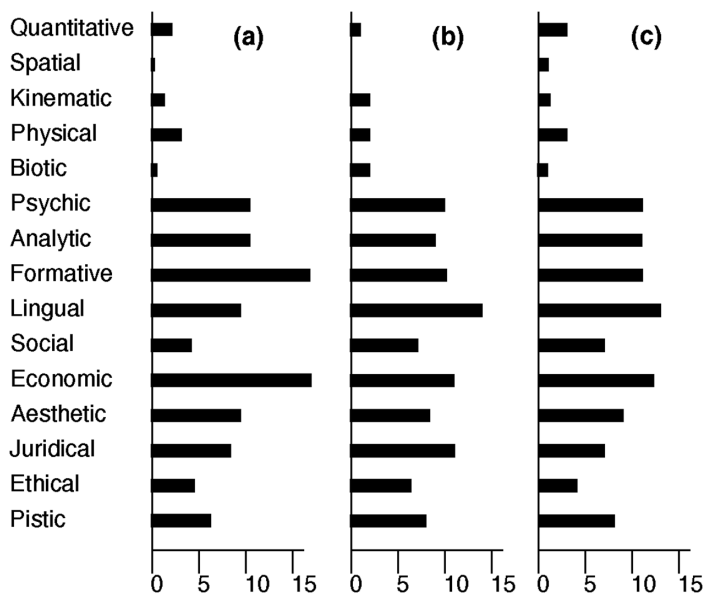


Figure 11.8 Aspectual profiles for three primary schools using IT

As with single profiles, we may ask “Why?” Why might schools differ on which aspects are important? Relating the different profiles to the different situations and histories of the three schools revealed several interesting points for discussion.

11–7.3.5 *The Value of Extra, Volunteered Information*

Both Khojah and Aiyenitaju separated direct answers (A) to interviewer questions (Q) from *extra, spontaneously volunteered information* (X), expecting A to be influenced by the interests of the researcher and X to better reveal what is meaningful to the interviewees. Aiyenitaju generated aspectual profiles of her Q, A and X; see Figure 11.9.

This confirms their expectations. It shows that whereas the researcher (via their questions) was particularly interested in the formative aspect, and this was reflected in the direct answers, the extra volunteered information shows no emphasis on this aspect but is more evenly spread across all aspects. It is also interesting that in both answers and extra information the economic aspect of daily resources emerged as important despite the researcher’s relative lack of interest therein.

This implies that in all open-interview research, stripping away the direct answers to questions and working only with volunteered information might provide a more accurate understanding of what is meaningful to the interviewees. Examining the aspectual profile of the questions and direct answers might reveal the nature and extent of researcher effect.

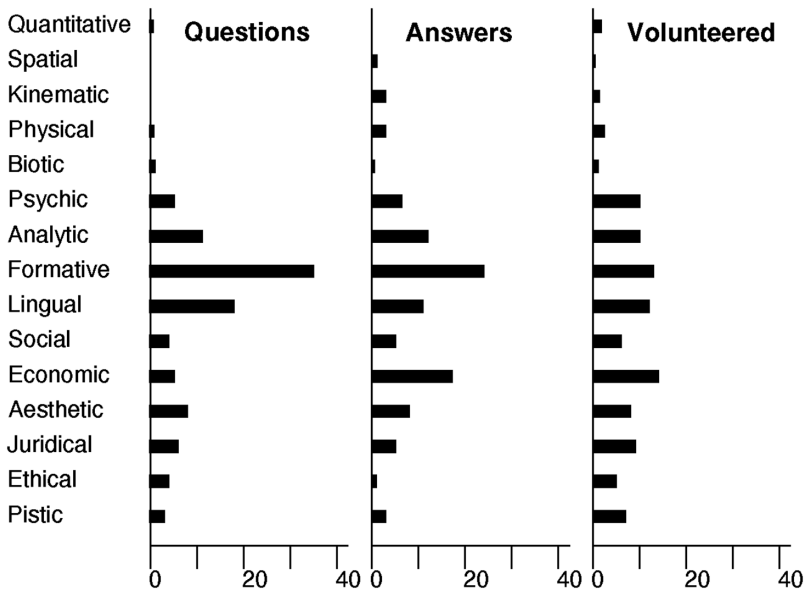


Figure 11.9 Aspectual profiles for questions, direct answers and volunteered information from teachers

11-7.3.6 *The Literature Versus Everyday Experience*

Khojah aspectually analysed the down-to-earth issues mentioned in the academic health records literature and compared the aspectual profile this yielded with that of the healthcare workers; see Figure 11.10.

Both workers and literature find the formative and juridical issues particularly important, and neither place much emphasis on ethical or aesthetic issues (nor on those of the early aspects). What is interesting, however, is that the literature places more emphasis on economic and social issues and much less on lingual and pistic than do healthcare workers. We may ask “Why?” to direct further research.

Qualitative analysis reveals even more difference. Though both literature and healthcare personnel found the juridical aspect meaningful, qualitative coding of both sets reveals different kinds of juridical issues. To health care workers, the top three juridical issues were Proper Working, Proper Documentation and Responsibility (nurse, others). These were completely absent from the literature analysed, the top three concerns of which were Patient Safety, Medical Error and Appropriateness (of system, to staff).

This strikingly shows bias in academic literature and the theoretical thought on which it is based (§2-3.2) away from everyday experience. Academic literature is consequently a poor guide to what is important in healthcare. Ahmad found similarly, as did Aiyenitaju in her study of teachers’ values.

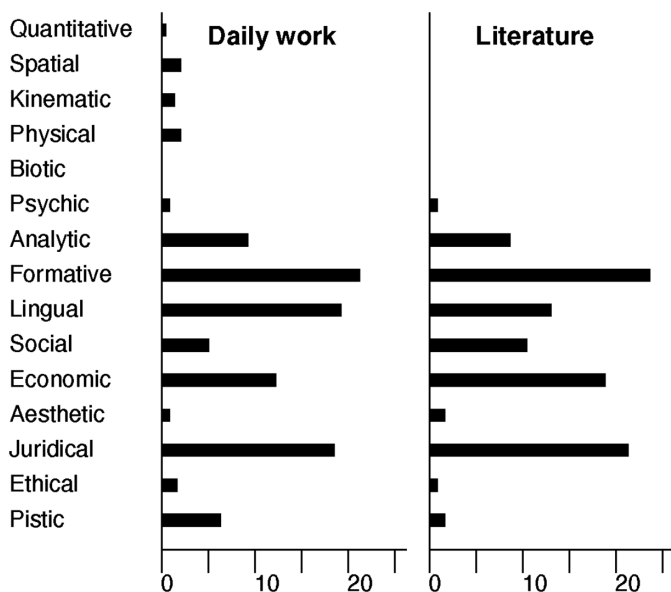


Figure 11.10 Aspectual profiles: relative importance of each aspect (%) for (a) healthcare workers and (b) health record literature

More generally, this provides empirical support for Dooyeweerd's original contention that theoretical thought is not neutral and theoretical bodies of knowledge are not 'truth' (§2-3, §2-4, §6-4, §7-4.2).

*Research opportunity: non-neutrality of theoretical thought.* Extend Khojah's comparison with more literature, and in other fields. Aspectual analysis of literature in each field compared with down-to-earth issues of everyday experience might provide extensive empirical support or otherwise of Dooyeweerd's transcendental argument.

### 11-7.3.7 *Reflection on Aspectual Analysis of Down-to-Earth Issues*

It is customarily expected that down-to-earth issues of everyday experience are too profuse and contingent to be seriously studied as a whole. That expectation arises from presupposing either autonomous subjectivity or reductionist objectivity, but Dooyeweerd's understanding of diverse, coherent meaningfulness offers a philosophically sound basis for studying the plethora of issues, and Ahmad, Khojah and Aiyenitaju have developed methods for doing so. We may note the following.

1. *Revealing* of down-to-earth issues occurs primarily during aspectual interpretation of texts, which separates out aspectual issues. Revealing is possible because every phrase interviewees utter is meaningful in some way (§4-3.11.1), and Dooyeweerd offers a suite of aspects to help the analyst.

2. *Quantitative aspectual analysis* offers an overview of what is meaningful to a cohort, while *qualitative aspectual analysis* opens up some of the detail. Both work together. Focus on aspectual meaningfulness thus assists *mixed methods research*.

3. The *diversity* of aspectual issues can be handled well because of the irreducible distinctness of aspects (§3-2.3). Both Aiyenitaju and Khojah found early aspects are less frequently mentioned. Mostly their role is merely as foundational support for later aspects, though issues like movement of records with patients from one hospital location to another are directly meaningful.

4. *Values* may be studied in their diversity because of the innate normativity of aspects (§4-3.7).

5. *Uncovering* hidden down-to-earth issues, and exploring their *depth*, is stimulated by asking questions raised by aspectual profiles and by examining aspectual issues qualitatively. Uncovering is possible because every aspect is meaningful in the situations being studied, and hiddenness results from overlooking aspects.

6. *Classifying* down-to-earth issues is made possible because Dooyeweerd's suite of aspects offers a ready-made, philosophically sound basis for classifying issues (§4-3.2). Ahmad used aspectual classification after undertaking standard qualitative coding, but it makes sense to reverse this, as Khojah

and Aiyenitaju did and perform aspectual classification first. This is because qualitative coding, though it can reflect what seems relevant in the fact-side situations being studied, it also reflects the analyst's subjective selection of aspects of interest. All qualitative coding presupposes a basis for distinguishing ways of being meaningful (aspects), so why not capitalise on one of the best attempts so far to delineate those aspects (§9–4)?

7. Challenges in aspectual analysis. Khojah (2018) discusses a number of challenges she met in aspectual analysis.

- a) Aspectual interpretation can sometimes be ambiguous. For most phrases only one aspect could be assigned, but in some, two aspects were possible. “Focusing more on patient care” could be formative and/or juridical. Which aspect prompted the utterance can sometimes be judged from surrounding text.
- b) Different analysts might assign different aspects because they have different intuitive grasps of aspectual meaningfulness.

*Research opportunity: aspectual interpretation.* To investigate how aspects are interpreted differently, present the same interview transcripts to several analysts who all understand Dooyeweerd's aspects and compare the aspectual issues they come up with.

- c) Researcher experience of the studied situation (Khojah had already worked in healthcare) can often yield more nuanced interpretations, closer to what is meaningful to interviewees, but it might also distort, because of the cultural assumptions. Aspectual analysis can ameliorate this by seeking pragmatic as well as semantic meanings and by considering all aspects in order to spotlight unspoken assumptions.

#### 11–7.4 *Complex Quantitative Comparisons*

Bar charts are useful for simple comparison of a few aspectual profiles. However, Nick Breems needed to make a more extensive quantitative comparison between discourses in a field compared with each other and with everyday experience. The actual comparison is described in Section 11–2.4; this section describes his method of analysis.

The topic Breems studied was computer procrastination, which had never been adequately discussed in the literature, and he wanted to (a) understand why this was and (b) find a way to adequately study it and similar complex problems. As mentioned earlier, in the conceptual framework for his research, Breems used Basden's (2008a) initial framework for understanding IT use, which later became the Aspectual Engagements Framework of Basden (2018a) (§11–3.6.3). It sees IT use as three human engagements, each of which exhibits all 15 aspects in principle; this gives at least 45 spaces for discussion of factors that are meaningful!



Breems looked for major themes that occupy the discourses in each of five research areas, which might find computer procrastination relevant, and identified aspects that made each theme meaningful. For example, the HCI (Human-Computer Interaction) field might study response times to stimuli on screen, and Breems would count this as of the psychic aspect of engagement with the interface. He also empirically investigated the 45 aspects of the three engagements in the everyday experience of computer procrastination, by introspection while playing the Yahtzee computer game. For example, that the game is tantalizingly close, on the screen, to where he would be working (e.g. writing a report), counted as a spatial aspect of engaging with the interface. See Breems & Basden (2014) for the full analysis.

Breems created a useful visual device for comparing what is meaningful to discourses and in everyday experience, the heatmap diagram, shown in Figure 11.2. This reveals that none of the research areas that might be expected to understand computer procrastination can do so because, for each one, at least some aspects or engagements that are important in the everyday experience of computer procrastination are of little interest. His method of analysing and displaying the interests of discourses was adopted by Basden (2018a) when analysing 17 discourses in the field of IT use (*ibid.*, 209–12).

### 11–7.5 *Complex Qualitative Comparisons*

Stephen McGibbon wanted to investigate trust. As discussed in §11–4.4, trust is an extremely complex issue, discussed in many fields in different ways, yet always recognisable as trust. To do justice to such a myriad of meaningfulness and, at the same time, to its coherence as trust is a challenge for any research and a good test of the capability of Dooyeweerdian philosophy.

For this, he needed a method of analysing a wide range of literature to find out what each author finds meaningful about trust. He arrived at a complex picture that gives useful findings that are reasonably reliable and can be communicated and defended. See Figure 11.4.

Such a complex analysis was an uncharted territory with Dooyeweerd's philosophy, so McGibbon had to find his own ways, including recognising and retreating from dead-ends. McGibbon (2018) describes the adventure in detail; the following is a summary.

1. He first tried identifying primary aspectual functioning of trust mentioned by each author, counting the frequency of occurrence and displaying the results by various means (bar chart, radar diagram, pie chart, etc.) to see if this could provide insight into the differences and similarities among authors. This proved unsatisfactory for several reasons. (a) Fifteen aspects proved not rich enough when taken singly. (b) When he returned later, these could not remind him of his earlier thought processes. (c) It could not communicate well to others; and attempts to do so deteriorated into discussions of his subjective interpretations and counts. (d) If a certain aspect had zero count on the first interpretation, he found that, when he re-read the author,

he could invariably find occurrences of that aspect—which cast doubt on his interpretations.

2. He noticed that, when trying to remember or justify earlier interpretations, he would be referring to anticipations and retrocipations of aspects, which he called “cipations”. So, instead of single aspectual meaningfulness, he began looking at cipation pairs. Such cipations themselves function in various aspects and form *cipation triples*. This was more successful and allowed him even to understand poetry from a different era in aspectual terms.

Example: “It [mercy] droppeth as the gentle rain from heaven” in Portia’s speech in Shakespeare’s *Merchant of Venice*. “Gentle” (ethical) retrocipates “rainfall” (physical). The meaningfulness of ethical-physical gentle rain is that it waters plants to refresh and bring life: organic-biotic aspect. This yields the cipation triple ((ethical, physical), organic) as part of Portia’s understanding of mercy.

This begins to open up some of the structure of individuality beyond the qualifying aspect and those on which it depends into something more like a network of aspectual relationships. It affords the richness McGibbon needed to understand what authors were meaning in their various utterances on trust. He found also that it communicated the meaning to others more easily and with less criticism of his subjective interpretations, and that it was easier to remember what he had meant when he returned to the interpretation later. It also offers a way of differentiating what authors meant when they used similar wording, but in non-precise ways. Example: “emotional aspect of trust” is psychic to one author and juridical-pistic to another.

3. On analysing Portia’s whole speech in this way, phrase by phrase, he discovered that aspects present themselves in three distinct ways:

- “wherein doth sit” is direct spatial functioning;
- “earthly power” is spatial-formative anticipation;
- “upon the place beneath” is ethical-spatial retrocipation.

4. This allowed McGibbon to analyse the literature on trust in a way on which it is more reasonable to rely (§1–2.1) than on his subjective interpretations, but without seeking ‘objective truth’. He then proceeded to identify which aspects were important to each author, and he summarised this in the cell diagram shown in Figure 11.4. What such a diagram reveals is discussed in §11–4.4.

In finding several aspects that make each utterance meaningful follows what Joneidy, Khojah and Aiyenitaju did, but McGibbon makes it more systematic and defensible. Where they might assign multiple aspects to an utterance, McGibbon seeks to understand the relationships between those aspects in terms of Dooyeweerdian theory of cipations. While all four necessarily employ their intuitive grasp of aspectual kernels, McGibbon

perhaps reins this in somewhat, and he found he could remember each aspectual decision and communicate it better. Questions about his method still remain, but it offers a usefully systematic approach, to be developed further.

### 11–7.6 *Overview*

What has been described is research that has been actually carried out using Dooyeweerd’s aspects in data analysis. It shows a progression, in which each discovered something more and each can be applied in different situations. Whereas all but two are analysis of interview transcripts, most methods can be applied to any texts.

- Joneidy, McGibbon and Breems apply aspectual analysis to literature while the others apply it to interview transcripts.
- Kane’s assignment of a main aspect to each utterance or text is the simplest version and the easiest to learn, and it useful for finding what is meaningful to interviewees.
- Joneidy did something similar with phrases, to find motivations as aspects in which papers are meaningful in their wider context, but used methods to reveal implicit meaningfulness.
- Ahmad used aspects to reveal down-to-earth issues, as distinct from the “high-level” issues that dominate the literature, by finding multiple aspects meaningful in excerpts of text. Ahmad shows how to attach Dooyeweerd to conventional research methods, after qualitative coding. She recognises the difference between direct and deduced meaningfulness in texts.
- Khojah and Aiyenitaju separate out voluntarily offered extra information from that given in response to questions, as a way to understand the nature of researcher bias and to reduce it.
- Moreover, they apply aspectual analysis before qualitative coding, using the latter within each aspect. This makes it easier to undertake cohort comparisons.
- Aspectual analysis allows quantitative aspectual profiles to be built up, which can give overall pictures of profiles of interest followed by qualitative aspectual analysis of detail.
- Breems offers a way to facilitate comparisons of complex issues, for which extant discourses are not adequate.
- McGibbon explores ways of doing justice to extremely complex issues like trust. He works out more fully than most do the complexity of Dooyeweerd’s notion of individuality structures (§4–3.4) by citation triples that form a network of inter-aspect relationships.

This wealth of experience could be useful in many fields. I will discuss just one example, Discourse Analysis, which was briefly discussed in §8–2.3. Wooffitt (2005) remarks that Discourse Analysis lacks formal

methodological procedures, and it might be that the methods above can fill this gap.

If Discourse Analysis may be seen as adding the social aspect to the lingual in text analysis, Dooyeweerd would welcome this, as recognising more of the multi-aspectual ‘ocean’ of meaningfulness (§4–3.10), in which our lingual functioning of generating and receiving signification-meanings (§4–3.11) ‘swims’. He would however urge Discourse Analysis, and sociolinguistics in general, to be bolder and recognise other aspects beyond the social. This is, perhaps, what Feminist Poststructural Discourse Analysis tries to do (§8–2.3).

As such, the above methods, which attempt to give equal respect to every aspect of the human activity in which the analysed text is generated, could therefore make a signal contribution to methods of Discourse Analysis. In Dooyeweerd there is no micro-macro, individual-social dichotomy, but all are merely manifestations of the different aspects of the coherence of meaningfulness, so this would reinterpret Critical Discourse Analysis.

*Research opportunity: text and discourse analysis.* Using the above ideas, formulate, develop, test and refine versions of Multi-Aspectual Discourse Analysis.

## **11–8. Extending These Ideas: New Adventures Awaited**

Referring to Table 11.1, we can see that Dooyeweerd has been used in four out of the seven stages of research and in limited ways in two others. There are gaps. I know of no cases where Dooyeweerd’s philosophy has actually been used to clarify or justify the main research question or to discuss limitations and contributions of the research. Even in those stages where his ideas have been used, much territory still awaits exploration. For example, use of Dooyeweerd in data collection has been to design questionnaires and guide interviews, but not during observation, field studies or experimentation. His ideas have not been applied practically in the natural sciences and only once in mathematics. This section, therefore, discusses the possibility of using Dooyeweerd’s philosophy in some of these areas. Such discussion is, of course, based on speculation rather than direct experience, but I trust that it might stimulate some exploration of these areas.

Section 11–8.1 discusses how Dooyeweerd’s philosophy might be used at the start and end of research. Section 11–8.2 discusses using Dooyeweerd in observation (including, perhaps, field studies and experimentation) rather than interviews or questionnaires. Section 11–8.3 discusses possibilities of using aspects in the natural and mathematical sciences.

### **11–8.1 Using Dooyeweerd at Beginning and End of Research**

To start the research requires an understanding of the field, so that the proposed research will fit in appropriately. Dooyeweerd has not been directly used for this, but two pieces of research might offer relevant methods.

As discussed in §10–5, Jones (2007) used Dooyeweerd to guide his knowledge based systems development, a couple of the stages of which resemble early stages in research. He used aspects to identify stakeholders and their interests, as well as the kinds of processes to which the system would be relevant. This might be used in research with “stakeholders” replaced or augmented by “authors” and “processes” by “areas of concern”.

Section 11–2 outlines ways of overviewing discourses in a field. Basden & Kutar (2010) can provide a useful quick overview of which aspects might be of most and least interest among a small selection of papers in a field. Breems’ (2014) heatmap diagrams provide a better overview, showing precise gaps, but require more extensive reading. Joneidy’s (2015) method provides the most precise investigation.

*Research opportunity: research planning.* Explore and develop aspectual analysis methods based on these suggestions for research planning: making a good initial overview of fields and clarifying and justifying the topic and main research question of research, and writing research proposals.

In the concluding phases of research, such aspectual analyses can assist discussion of its contributions to theory. The normative structure of Dooyeweerd’s aspects can assist this, especially when discussing contributions to practice. Dooyeweerd’s notion of Ground-Idea and the totality of meaningfulness that are the aspects might be useful to refer to when discussing limitations of the research.

*Research opportunity: research conclusions.* Explore and develop methods, based on Ground-Ideas, for systematising discussion of limitations and contributions of research.

### 11–8.2 *Using Dooyeweerd in Observation*

Observing behaviour differs from interviewing or even analysing written texts in one fundamental way. The meaningfulness that is studied is not delivered via lingual signification-meanings generated by participants (interviewees or other writers), but by researcher-generated interpretation-meanings (see §4–1, §4–3.11 for the difference). Analysis of signification-meanings has been covered in Section 11–7, but analysis of interpretation-meanings is discussed here. The discussion is short and somewhat speculative because there has not, as far as I am aware, been any major work exploring the potential of Dooyeweerd’s philosophy to assist these.

Saunders et al. (2012) offer a typical approach to observation research, differentiating between participant and structured observation, suggesting methods for each, and discussing problems of observer error, bias and effect. In participant observation, the researcher is immersed as part of the situation and might or might not hide their identity as researcher. In structured observation, the researcher maintains a distance from those observed,

imposing their own list of meaningful criteria for observation, which is usually structured.

From a Dooyeweerdian perspective, the difference is less marked because the researcher is never fully detached, yet there is always some *Gegenstand* attitude (§2–2, §6–3.2). Both participant and structured observation seek to discover what is meaningful in the behaviour observed, observing fellow ‘swimmers’ in the ‘ocean of meaningfulness’ (§4–3.10). What is important, in both types, is sensitivity to the entire range of aspects, as ways in which behaviour can be meaningful, whether human or pre-human behaviour.

The participant observer may employ aspects to overcome their own bias towards certain issues and be sensitive to all—perhaps in ways discussed in §11–6 and §11–7. The structured observer may use aspects to ensure that the criteria they plan to observe include every aspect, rather than merely those that happen to interest them. An example of a recording sheet for observing behaviour in a group discussion (Saunders et al. 2012, 360) has the following, and I assign aspects:

- “Taking initiative”—formative;
- “Brainstorming”—psychic, analytic;
- “Offering positive ideas”—ethical, formative;
- “Drawing in others”—social, ethical;
- “Being responsive to others”—pistic, ethical;
- “Harmonising”—aesthetic;
- “Challenging”—juridical;
- “Being obstructive”—ethical dysfunction;
- “Clarifying/summarising”—analytic;
- “Performing group roles”—social.

Almost every aspect from psychic onwards is there—suggesting a reasonably wide coverage of what is important in real-life group discussion. This is not surprising since the sheet seems to have been developed in response to long experience, which Dooyeweerd holds to involve every aspect. If we wish to critique and improve the sheet we might ask: (a) Where are the lingual and economic aspects? (b) Why is only one aspect dysfunction explicitly mentioned?

*Research opportunity: observation research.* Dooyeweerdian ideas are yet to be developed in both participant and structured observation.

### **11–8.3 Using Dooyeweerd in Natural and Mathematical Sciences**

Discussion in this chapter so far has been about studying human behaviour, but the natural sciences study the behaviour of animals, plants and material and the mathematical sciences, the ‘behaviour’ of quantities, etc., in order to better understand the laws of the relevant aspects. How might Dooyeweerd’s

ideas help research in the natural sciences and mathematics? Experience is sparse, so the following is a brief, initial reflection, the aim of which is to stimulate readers into innovatively thinking about other possibilities.

Given that humans can function as subject in all aspects, most of the above methods have stressed the importance of considering every aspect. Since material functions as subject only in the first four aspects (§4–3.9), it might seem that only physical, kinematic, spatial and quantitative laws apply, and so the other 11 aspects are irrelevant to research content in the physical sciences. (For plant and animal sciences, the latest aspects are the organic-biotic and psychic respectively.)

That view is over-simple. Not only are research *activity* and application still multi-aspectual (see §4–4.2, Chapter 10), but natural science and mathematical research *content* is too. For example, Satherley (2011) argues, with reference to chemistry, that all things function in all aspects, even though some of this functioning is as object, involved in some other subject's functioning. So material like water molecules or planets can function as object in all 11 other aspects. Such object-aspects affect their physical subject functioning by retrocipatory influence. He offers, as example, the behaviour of water molecules and lipids that is governed not by physical laws but by organic ones, and is not found in the non-living world.

Even chemical processes that are found there might operate differently because of conditions that can only be explained from the perspective of later aspects. Physico-chemical behaviour is retrocipatorily influenced by the organic-biotic behaviour of the plant or animal. Chemistry, therefore, takes that which is meaningful in the organic-biotic aspect into account. Moreover, the plant behaviour might in turn be affected by human behaviour; for example whether the plant is in a garden or is being forced for sale in a continuously lit hothouse.

This is recognised, of course, but it may be made more systematic with an awareness of aspects. Satherley uses Dooyeweerd to clarify concepts and arguments. This is why research carried out by pharmaceutical companies is rightly viewed with suspicion unless their laboratory tests adequately match conditions in bodies, and moreover bodies in everyday life rather than the laboratory.

However, Satherley's main research in chemistry seems to make no reference to Dooyeweerd. It remains to be discovered how, if at all, Dooyeweerd can be relevant there.

Similarly, in mathematics, as discussed in §6–1.1, mathematical theories have to take into account their potential application context. The content of mathematical theories, especially their interpretation, is also influenced by research activity, especially the pistic aspect of beliefs and assumptions held by the community. This has been shown to be so in statistics by Hartley (2008), who employs Dooyeweerd's exploration of the Nature-Freedom ground-motive (§5–2.2, §5–2.4) to cast light on four paradigms in statistics: direct and indirect frequentism, objective and subjective Bayesianism (see §11–3.1). He argues that adhering to the nature and freedom poles constrain



both the statistical procedures used and their interpretation. See §11–3.1 for his paradigm critique.

He presupposes, and slightly argues, the embeddedness of statistical analysis in everyday life and openness to the realities of research, which of course fits comfortably with Dooyeweerd's starting-points. In discussing statistical thresholds used in decision making (Hartley 2008, 88), he argues that decision makers must account for "economic, social, moral and biological" properties and laws, rather than only quantified degrees of beliefs. He also mentions a number of aspects that are important in undertaking statistical analysis, suggesting multi-aspectual functioning. For example, various steps may help the analyst reduce distortion while forming subjective priors (p. 91): eliciting knowledge from experts (juridical) individually and in groups (social), rewording questions (lingual), and seeking experts who do not stand to benefit from research conclusions (ethical). (This is of course verging on research activity.) See Hartley (2008) for further discussion.

These and other ideas need to be developed in order to, at least, ascertain just how useful Dooyeweerd might be in research content in the early-aspect sciences and, then, to forge good Dooyeweerdian methodological and conceptual tools for such research equivalent to those described for human research in this chapter.

## **11–9. Conclusion**

Dooyeweerd's philosophy is relatively new among researchers. This chapter has discussed examples of how Dooyeweerd's philosophy has been used as an approach, as foundation for conceptual frameworks, and as a source of conceptual tools or methods for data collection and analysis—the three roles of research discussed in §5–1. The examples have been drawn from a number of researchers who have used Dooyeweerd across several fields, including my own.

Dooyeweerd's aspects have been the most widely used portion of his thought. This is not surprising since they embody and express the diversity and coherence of meaningfulness encountered in the everyday experience that is actual reality, the world we are trying to understand. Aspects have been used to compose questionnaires, guide interviews, form categories, analyse data, reveal issues that have been overlooked, critique paradigms, create new paradigms and frameworks for understanding, open doors to new avenues of research, clarify concepts like information, do justice to the nuanced complexity of ideas like trust, focus and open up ideas like idolatry, provide bases for comparing what is meaningful in extant discourses, compare them with empirical experience, gain overviews in diverse collections of papers, and, throughout all these, maintain a normative element in research.

Other portions of Dooyeweerd's thought have been used less. Dooyeweerd's idea of dialectical ground-motives has been useful in critiquing the state of a field by revealing the roots of conflicts and oppositions that hinder dialogue. Dooyeweerd's understanding of subject-object relationships,



functioning, qualifying aspects and enkapsis have been useful in several places alongside aspects.

Dooyeweerd's philosophy has proven adept and efficient in four main stages of research, to gain an overview of fields, literature and paradigms, to understand paradigms and generate new, rich conceptual frameworks, to collect data and analyse data to yield findings. There are gaps, as discussed in Section 11–8.

What are the limitations and problems of using Dooyeweerd in research? Some challenges have been discussed (§11–2.4.3, §11–7.2.3, §11–7.3.7, §11–6.4). The subjective understanding of aspect kernels can sometimes affect interpretation of data, but with judicious research design the effect of this can be reduced (see the comment in §11–6.4). However, it is too early to properly discuss limitations until wider experience is gained. We need adventures with Dooyeweerd in observational and experimental research and in a wider range of fields, especially in the natural sciences. We need adventures in the initial and final stages of research.

Nevertheless, the adventures that have taken place so far with Dooyeweerd's philosophy have opened up considerable territory in research, which should enable and encourage further adventures. The discussions in this chapter should provide exemplars that can be adapted. Chapter 9 has been included in order to help researchers develop their intuitive grasp of aspectual kernels. Part IV concludes our discussion.