

The best known but least understood part of Dooyeweerd's philosophy

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Abstract

Dooyeweerd once said that the part of his philosophy that is best known within academic circles is his theory of the modal aspects of reality, but that this section at the same time is the least understood part of his philosophy. This article sets out to investigate six of the most prominent prevailing misunderstandings and to assess their relative merit in confrontation with the original ideas of Dooyeweerd's philosophy, in terms of newly introduced systematic distinctions (for example regarding the “cross-fertilization” between the dimensions of aspects and entities regarding the way in which both these dimensions can be characterized), with reference to certain historical tendencies and by emphasizing the crucial element of *modal universality* of every modality. A more extensive analysis is given of the view that modal aspects are “properties of individual things.” It is argued that this misunderstanding does not properly distinguish between *modal properties* and *typical properties* and that it also does not realize that the modal aspects serve as universal spheres within which every concrete (natural and social) entity and process have *specified* (so-called *typonomic*) function. Special attention is also given to the nominalistic legacy in terms of which reality is tripped from its modal dimension – *a la* Descartes who already claimed that number and all universals are mere *modes of thought*.

1. Orientation

At the Annual Meeting of the Association for Calvinistic Philosophy (as it was still known at the time), held in the *Hotel Americaine* (Leidse Plein, Amsterdam, January 1970), Dooyeweerd at a certain stage participated in the discussion concerning the invention of the theory of modal aspects by remarking that although it certainly is the best known section of reformational philosophy it is also the least understood part of it.

For the purpose of this article such misunderstandings regarding the nature of modal aspects will successively be discussed in connection with the following ‘allegations’:

- 1) Aspects are viewed as ‘cuts’ or ‘layers’ within reality, in the sense that they are seen as a way in which reality could be ‘divided’.
- 2) Aspects are interpreted as properties of entities.
- 3) It is confusing to equate modalities, aspects and functions.

- 4) There are ambiguities regarding the relationship between law and subject and universality and individuality
- 5) Aspects are mental constructs.
- 6) Aspects are designated as the field of study of the various disciplines.

2. Do the aspects ‘subdivide’ reality?

The idea that modal aspect subdivide reality into as many ‘pieces’ as there are aspects is built upon multiple confusions. Let us list them first: (a) The mistaken view that reality (the universe) is one big ‘thing’ (whole) that can be divided and that the result of such a division is exemplified in the different modal aspects; (b) It rests upon an uncritical employment of the idea of a whole (totality) and its parts; (c) It does not account for the “entitary-natured” (i.e. non-aspectual) ‘parts’ of reality. (d) It continues a long-standing nominalistic legacy. (e) It does not understand the basic modal sense of the whole-parts relation.

Re (a)

Although human thought inherently displays a ‘totalizing’ tendency, explaining why in everyday parlance we unhesitatingly speak of the *universe*, this tendency does not warrant the conclusion that the universe indeed is nothing but one big entity which in its totality (as a whole) could be divided like cutting a cake. In our everyday experience we are fully aware of multiple (differently-natured) *kinds* of things, processes (events) and societal entities. The idea of a modal aspect is based upon the assumption that *distinct* from the dimension of natural and social entities we can identify the *dimension* of modal aspects. This entails that no single aspect can ever be a ‘part’ of (entitary) reality. Entities are entities and therefore they can only have *entitary parts*. The general assumption of the theory of modal aspects is that every possible entity (and every possible part of an entity) in principle has a function within each modal aspect of reality. The only condition added to this general claim is that one has to differentiate between subject functions and object functions. Physical entities, for example, are said to have *subject functions* in the first four modal aspects (number, space, movement and the physical), but they have object functions in all the post-physical aspects.

It is worth mentioning in this context that a number of critical appraisals of Dooyeweerd's philosophy suggested a connection between his philosophy and the theory of layers (*Schichten*) developed by Nicolai Hartmann. In addition to a brief remark in Dooyeweerd 1997-II:51 note 3 a more extensive defense against this misunderstanding is found in Dooyeweerd 1960:122-124.

Re (b) & (c)

Dooyeweerd has developed a specific theory in terms of which he accounts for the interconnections between different kinds of entities – where each entity maintains its sphere-sovereignty – designated as the theory of enkaptic interlacements. Enkaptic intertwinements are different from a straight-forward whole-parts relation because in the latter case all parts share – in their being-a-part – a structure determined by the whole.¹

¹ It may look as if Dooyeweerd contradicts himself by still speaking about an enkaptic structural *whole* – but this follows from the “cross-fertilization” to be discussed (§ 4 below).

Whenever we look at a whole-parts relationship – whether ‘normal’ or ‘enkaptic’ – the parts concerned cannot be *aspects*. In his critical discussion of the expression “aspects of things” Van Woudenberg correctly points out that having a physical aspect does not entail a composition of physical material (Van Woudenberg, 2003:4).

Re (d)

When Descartes declares that “number and all universals are modes of thought” his position bears witness to the influence of modern nominalism. The latter ascribes reality only to concrete entities, implying that the various aspects of reality could only be appreciated as being seated within human thought (reason). Therefore, if the aspects are to partake in ‘reality’ they have to be appreciated in *entitatory terms* – as manifested in the mistaken idea that Dooyeweerd *divided* reality itself by distinguishing its aspects. Surely, it requires some-‘thing’ with an entitatory nature to ‘cut’ or ‘divide’ concrete reality!

Re (e)

The whole-parts relation in a modal functional sense for the first time appears within the spatial aspect. A continuously extended spatial subject, such as a one-dimensional line-stretch, must be connected in all its parts, for if some of its parts are *disconnected*, i.e. if they are not *cohering*, then the gaps will cancel its *continuity*. Therefore, in ordinary parlance, one sometimes speaks of a *gapless* connection or coherence. Furthermore, if all the parts are present and fitted in a gapless coherence, they constitute the meaning of the *whole* embracing all its parts.

3. Are aspects properties of entities?

Although we have to realize that one can also speak of properties different from properties of entities, such as properties of statements or syntactical properties, the general awareness of entities with their properties is what is at stake in the formulated question.² In his discussion of this issue Van Woudenberg intends to explain Dooyeweerd's view as follows: “So, a stone, or tree, or cat, or person is not a modal aspect. Modal aspects don't, so to speak, exist, in their own right but are aspects *of* individual things. They require a ‘bearer’, or ‘substratum’.” He explains that Dooyeweerd does not advance a ‘bundle’ theory but a ‘substance’ theory, for “individual things are not just bundles of aspects” for “aspects are aspects *of* such things” (Van Woudenberg, 2003:1). Throughout his discussion he maintains the assumption that Dooyeweerd's intention was to understand aspects as aspects *of* individual things – even where he explicitly deals with the possibility of speaking of things as *functioning* within an aspect (Van Woudenberg, 2003:6).

Let us suppose for a moment that it was indeed Dooyeweerd's intention to see (modal) aspects as properties of things and then suppose that we imagine multiple entities having a certain property – for example the property of being *square* (‘squareness’ – such as a square room, a square table, and so on). The key question then is what “bridges the gap” between these multiple entities, i.e. what makes it possible to speak of the *same* spatial

² Of course as soon as one accounts for configurations like numbers, sets of numbers, spatial points, statements and sentences it can be argued that we are dealing with ‘abstract objects’ or ‘abstract entities’.

property in *different* instances? If the nature of *spatiality* is not more than its individual instantiations, if it does not exceed any (individual) possible case of ‘squareness’, and then it seems impossible to assign the same property uniformly, or, as one may immediately say, *universally*, to all possible square entities. In other words, the first attempt to envisage what the expression “property of an individual thing” means already suggests that something more fundamental is at stake, something with an inherent universality of scope transcending merely being a property of an individual thing.

But the fact of the matter is that Dooyeweerd considers the different modal aspects as belonging to a *distinct dimension* of created reality. The modal aspects are seen as the *a priori ontic conditions* making possible the many-sided existence of concrete (natural and social) entities. They form the *universal cadres* within which concrete entities and events function. Each modal aspect displays certain universal characteristics – such as having a unique, indefinable and irreplaceable core meaning (meaning-nucleus), (retro-cipatory and anticipatory) analogies referring backwards and forwards to the other modal aspects, having a law side and a factual side accompanied by the correlation of time order and time duration, and on the factual side each one displays both subject-subject and (in the post-numerical aspects) subject-object relations. As such each one has a universal scope, best captured by the phrase: *modal universality*. The nature of modal universality can be explained in terms of the nature of gravity.

In ancient Greece and during the Medieval period it was believed that the laws governing entities on the earth are different from those laws governing celestial bodies. Incorporated in this view was the conviction that motion can only be explained through direct “contact” between bodies – so to speak “pushing” each other. But then Newton introduced his law of gravity, positing the idea that entities anywhere in the universe attract each other according to a force directly proportional to their respective masses and indirectly proportional to the square of the distance between them. The force of gravity captured in the formula for gravity exercises its effect despite the fact that the attracting bodies may be separated by a vast empty space. Suddenly it appeared that Newton’s formulation brings to expression a *physical law* that holds *universally* for all physical entities, locally and in outer space. It was simply impossible to explain the effect of this law in terms of the physical mechanism of bodies in “contact with” or “pushing” each other. Kline remarks that

the abandonment of physical mechanism in favor of mathematical description shocked even the greatest scientists. Huygens regarded the idea of gravitation as “absurd” because its action through empty space precluded any mechanism. He expressed surprise that Newton should have taken the trouble to make such a number of laborious calculations with no foundation but the mathematical principle of gravitation. Many others, including Leibniz, objected to the purely mathematical account of gravitation ... The attempts to explain “action at a distance” persisted until 1900 (Kline, 1980:55).

Modal universality underlies and makes possible the functioning of every entity within the aspect concerned.³ Philosophically speaking the technical term designed to capture the nature of those conditions making possible the existence and functioning of something, is given by the word *transcendental*. This term acquired a particular meaning in the philosophy of Kant, for in his *Critique of Pure Reason* the word transcendental is employed to account for that which provides the basis of all experience in the sense that it makes possible what we experience.

Unfortunately Kant did not accept any ontic universality, for according to him the formal source responsible for the ordering of the chaotic sensory impressions presented to us in experience, is found within the human subject itself – in what he calls the (a priori) forms of intuition (space as outer and time as inner form), and in what he designates as the twelve categories of understanding (arranged in four groups, namely those of quantity, quality, relation and modality) (see Kant, 1787:B:104 ff.).

Without the recognition of functional modes of existence that are given in an ontic sense, scientific thinking will constantly be burdened by an inability to account for the applicability of functional scientific insights. The latter indeed appears to be “miraculous,” for how is it possible that through rational insight we can formulate “laws” describing the functioning of those entities that we can experience? Von Weiszäcker phrases Kant's epistemological problem in terms of the question: What is nature, that it must obey laws which a human being could formulate with his/her understanding? (see Von Weiszäcker, 1972:128).

In his work on “Warrant and Proper Function” Plantinga calls upon various authors to illustrate this “miracle” or “mystery”:

This hasn't been lost on those who have thought about the matter. According to Erwin Schrödinger, the fact that we human beings can discover the laws of nature is “a miracle that may well be beyond human understanding” (What is Life? [Cambridge: University of Cambridge Press, 1945], p.31). According to Eugene Wigner, “The enormous usefulness of mathematics in the natural sciences is something bordering on the mysterious, and there is no rational explanation for it” (“The Unreasonable Effectiveness of Mathematics in the Natural Sciences,” in: On Pure and Applied Mathematics, [13, p.2]) and “It is difficult to avoid the impression that a miracle confronts us here, quite comparable in its striking nature to the miracle that the human mind can string a thousand arguments together with-

³ The following quotation of Mill given by Cassirer demonstrates an element of the nature of modal universality with respect to the quantitative mode: “All numbers, must be numbers of something: there are no such things as numbers in the abstract. But though numbers must be numbers of something, they may be numbers of *anything* (I am emphasizing – DS). Propositions, therefore, concerning numbers, have the remarkable peculiarity that they are propositions concerning all things whatever; all objects, all existences of every kind, known to our experience” (see Cassirer, 1953;33-34 – reference to Mill, *A System of Logic*, Book II, Chapter 6, 2). In spite of the distance between Mill and Frege, Dummett gives a similar explanation of Frege's view of generality: He says that this generality “does not relate to any special domain of knowledge, for, just as objects of any kind can be numbered, so objects of any kind can belong to a class” (Dummett, 1995:224).

out getting itself into contradictions, or to the two miracles of the existence of laws of nature and of the human mind's capacity to derive them" (p.7). And Albert Einstein thought the intelligibility of the world a "miracle or an eternal mystery" (Lettres à Maurice Solouine [Paris: Gauthier-Villars, 1956], p.115) (see Plantinga, 1993:232, note 2).

Once the ontic universality of modal aspects – such as the quantitative, the spatial and the kinematic – is properly understood, all these views will have to concede that these aspects are not mere "modes of thought" but that in an ontic sense they co-condition the existence of concrete entities and processes functioning within them. Therefore it is not mysterious at all that a theoretical insight into the nature of arithmetical laws, spatial laws, laws of motion, and physical laws (such as the law of gravitation) relates to "the real world" because these *modal laws* are co-conditioning the real world!

The modal universality of the various aspects enables all entities to function within all these aspects of reality, explaining why modal laws hold irrespective of the peculiar nature of different kinds of entities. By contrast, the law determining the nature of entities is always limited to a specific *class* or *group* of entities. The law for an atom, for example, is only applicable to atoms and not to anything else; the structural principle for marriage is only applicable to marriages and not to states or business enterprises. Whereas modal laws encompass all possible entities (and therefore hold *universally*), typical laws (type laws) only hold for a *limited class of entities*. Since natural and social entities function in a 'typical' way within every modal aspect, the word 'typical' actually refers to the *typonomic specification* of entitary functions (*typos* = type and *nomos* = law). Therefore *typical* functions should be designated as *typonomic* functions. Consequently, belonging to a specific kind therefore entails the feature of *typonomicity*.

Van Woudenberg continues his argumentation by investigating the possibility that an "aspect of a thing" is a point of view belonging to the viewer and not to what is viewed. To such a point of view, for example the physical, there belongs a family of concepts such as "atom, molecule, electron, mass, charge and impulse" (Van Woudenberg, 2003:7). His whole argument here is that *if* aspects are points of view belonging to the subject, they cannot be seen as ontic aspects as well. But the counter question is: why not? The possibility to 'look' at reality through the 'gateway' of the physical (or any other aspect) would vanish if reality itself did not display such an ontic mode or aspect. Modal aspects are therefore always at the same time *modes of being* **and** *modes of explanation*.⁴ In their ontic sense they are modes of being and once (modally) abstracted, they can also (without any contradiction) serve as modes of explanation.

Modal concepts always refer to the universal spheres in which concrete entities and processes *function*, whereas typonomic concepts refer to the dimension of concretely functioning entities, events and societal totalities. This distinction runs parallel with that

⁴ In his discussion of *categories* Loux highlights the latter perspective: "They [categories] are not screens or barriers between us and things; they are, on the contrary, our routes to objects, our ways of gaining access to them" (Loux, 2002:11).

between modal functional concepts and type concepts (typonomic concepts) – a distinction not considered by Van Woudenberg.

Practically in all special sciences, we encounter the use both of modal and typonomic concepts. The science of physics employs modal (functional) concepts, such as a uniform (constant) motion, the concept of force (a specific cause effecting a particular result), concepts such as volume, pressure, entropy, and so on. In addition physics as a discipline uses numerous typonomic concepts – such as atom, molecule, macro-system, physical processes, and so on (practically coinciding with those listed by Van Woudenberg). In biology the classification of plants and animals (in phyla, classes, orders, families, genera and species) represents typical biological entitary concepts whereas concepts such as growth, differentiation, integration, adaptation, finality, and so on all manifest biological concepts of modal functioning. By enumerating physical typonomic concepts Van Woudenberg therefore did not advance any argument against the ontic reality of the physical modal aspect or against the inevitability of physical concepts of function.

In the discussion thus far I have used the terms mode, aspect and function as synonyms. Yet, for Van Woudenberg only the terms ‘function’ promise to be useful. He holds that the idea of an aspect does not make sense. Of course, as we have noted, this conclusion stands and falls with the mistaken idea that Dooyeweerd views aspects as properties of individual things. Once this erroneous position is left, it is not difficult to explain why the term modality and function can be understood as synonyms. The original Latin root of the term mode is after all *modus* – still recognizable in phrases such as *modus operandi* and *modus vivendi*. A modality is simply a mode of being – exactly what is meant by Dooyeweerd when he employs the term function.⁵

If we may assume that Van Woudenberg may concede that the terms *function* and *modality* are acceptable, we still have to account for the legitimacy of the term ‘aspect’ as an indication of the different modal functions of reality. At this point a broader perspective is needed.

4. The cross-fertilization of the dimensions of functions and entities

One of the most effective ways to introduce the idea of a modal aspect (function) is to make a distinction between two different questions, that concerning the *concrete what* and that related to the *how*. Asking questions about the concrete *what* of entities and processes do not highlight any modal aspect, simply because the aspects reflect the *way (manner)* in which such entities and processes *function* – i. e. they relate to the *how* of concrete entities and processes. Already in 1910 Cassirer highlighted the importance of this distinction between *entity* (‘substance’) and *function* (see Cassirer, 1953). When entities and processes are resolved into functions we meet the distorted view of

⁵ In a work published in 1931 (see Dooyeweerd, 1931) Dooyeweerd consistently employs the term *function*. He never refers to functions as aspects, although the term ‘aspect’ is amply found in publications before (as early as in his Inaugural Address of 1926) and after 1931.

functionalism; and when modal functions are treated as if they are entities then those aspect are *reified* ('hypostatized' – from the Greek: *hypostasis*).⁶

The important thing to realize is that ultimately one can only speak of the modal aspects by (implicitly or explicitly) using terms derived from or reflecting the dimension of entities and vice versa, one can only talk of entities (and events) by employing terms derived from the dimension of modal aspects. Van Riessen used to say that the modal aspects are *points of entry* ('toegangspoorten') to concrete reality. At this point we need to understand human (analytic) understanding – i.e. the fact that our functioning within the logical aspect rests upon two inseparably connected analytical acts, namely *identifying* and *distinguishing*. This, in turn, is only possible in the presence of both similarities and differences. And whenever *differences* are shown in what is *similar* (or: when what is *similar* is evinced in what is *different*), we are dealing with what is known as an *analogy*. An analogy, in turn, embraces both connections between different modal aspects (known as modal analogies, i.e. retrocipatory and anticipatory analogies mentioned earlier) and similarities and differences between various entities, between similarities and differences between entities and modes, and similarities and differences between modes and entities – and these latter three are always designated by *metaphors*.

In other words, modal functional terms and metaphors are complementary in the sense that they serve, in a cross-fertilizing way, the (imaginative) options we have to elucidate the nature of the dimensions of aspects and that of entities. This explains the legitimacy (and unavoidability!) of using (or creating) some or other image in order to articulate what is meant by the dimension of aspects – ultimately based upon our integral embeddedness in reality and experience of it. The image mentioned above, where Van Riessen frequently spoke of aspects as *points of entry* or *gateways* to our experience of and reflection upon (entitary) reality is just one example amidst many other possibilities. When modal aspects are seen as *modes of explanation* it is often said that a specific discipline has a particular *angle of approach* – and once again the image of a concrete directional orientation serves the purpose of articulating something about the nature of modal aspects.⁷

The same applies to the term 'sides' that is also often used to talk of modal aspects – even by Dooyeweerd himself. From our experience of concrete physical entities we are all acquainted with their (typical) spatial properties. A cube, for example, as a three-dimensional physical entity, has six *sides* – it is in other words *many-sided* (nuanceful). Likewise, the world in which we live displays a rich diversity of 'hows' an 'whats' – i.e. of *functions* and *things*. We can therefore meaningfully explore the nature of typical spatial relations in order to speak of multiple modal functions within rality. Keeping in

⁶ An in-depth analysis of the decisive role of functionalism in the development of the modern natural sciences is found in an important work of Rombach (see Rombach, 1965-66).

⁷ Van Woudenberg phrases four sentences in which he uses the term 'property' and then reckons that the untenability of the expression 'modal aspect' is evident when one attempts to replace 'property' in each one of the sentences by the phrase 'modal aspect'. However, recalling our above-mentioned distinction between *modal* and *typical* (typonomical) the proper substitutions would have had to use the following two phrases: 'modal property' and 'typical property' – which yields in each instance a meaningful sentence (see Van Woudenberg, 2003:2).

mind that “typical spatial relations” or “typical spatial properties” concern the connection between the universal modal structure of a function of reality and the *entitary* way (i.e. the *typical* or *typonomical way*) in which concretely existing things function within this specific modality, we must observe that such a *typical property* reflects the relation between an entity and a modal function and consequently it falls within the scope of what we have defined as a *metaphor*. Therefore speaking of aspects as *sides* (or: *meaning-sides*; Dutch: ‘zin-zijden’) of reality represents simply one amongst many metaphorical options we have in order to express our understanding of the nature of modal aspects. The term ‘aspect’ itself is simply another word used to speak of the many-sidedness of reality.

It should be remembered that Dooyeweerd initially experimented with a expressions like “domain-category” (“gebiedskategorie”), “field of view” (“gezichtsveld”) (see Verburg, 1989:67) and “modal categories” (“modale kategorieën”) (see Verburg, 1989:56). All of them constitute metaphorical explorations – the first one almost in terms of a metaphorical duplication, because both the terms *domain* and *category* derive from the core meaning of the spatial aspect.

5. Is it confusing to equate modalities, aspects and functions?

The inevitability of employing such metaphors is not sufficiently appreciated by Geertsema in his critical assessment of Van Woudenberg's article. Geertsema writes:

It can be conceded that the word ‘aspect’ does not lead to a proper understanding of what is meant by modal aspect. The word as such suggests something external, especially because of its visual connotations, irrespective whether it points to something real, as side of a diamond, or refers to subjective viewpoints. Modal aspects imply something else. They refer to something much more intrinsic, especially in the case of Dooyeweerd. Modal aspects are ‘modes of being’ which make possible and determine the specific nature and kinds of individual things. This, of course, implies some understanding of being, but by itself it might explain why an analysis that starts with the common use of the word ‘aspect’ does not lead to a proper understanding (Geertsema, 2004:61).

The alternative for referring to an ‘aspect’ presented by Geertsema does something similar – it speaks of modalities by at once taking into account the dimension of functions (‘modes of’) and the dimension of entities (‘being’). The only difference is that whereas the terms ‘side’ and ‘aspect’ are derived from a *specific instance* of “modal typicality” (exploring “typical spatial relations”), the expression “modes of being” explores the *general case*, namely the fact that whatever entity there is it will have a function within all modes. We should not shy away from the imaginativity of creative metaphors – we only have to avoid a simplistic reliance on some or other ‘literal’ element present in the semantic field of words serving metaphorical designations. If the word ‘aspect’ or ‘side’ carries with it “visual connotations,” as Geertsema remarks, then as such it does not *prohibit* a metaphorical designation in which the reality of multiple modes is accentuated.

Of course at this point we actually meet one of the key (analogical) basic concepts of *semantics* as a sub-discipline of linguistics. Whoever opts for an *atomistic* semantics will reduce the semantic field (or domain) of a word to a *single meaning*. For example, although Antal considers a word to be the primary “sign-unit” in language, he actually dismisses the idea of multiple meaning nuances of a word (different connotations) by transferring them to what is *denoted* (Antal, 1963:53, 54, 58). This atomistic approach is left behind in the development of semantic field theory, already initiated by Trier during the first half of the 20th century. This trend asserts that the multiplicity of meaning-nuances of a word are bound together in order to form a genuine whole (*Ganzheit*). A word is a genuine totality embracing its parts fully, while in turn it can only signify because opposing words within its environment act in a meaning-delimiting way (see Trier, 1973:1, 5 ff., 15, and also Geckeler, 1971). But it will take us outside the context of our present considerations to digress upon an alternative semantic theory transcending the extremes of an atomistic and a holistic view. What is relevant to our discussion is that the distinction between *connotation* and *denotation* (originally from Frege: *Sinn* and *Bedeutung*), ‘liberates’ a word to serve many different “connotational purposes” – including metaphorical designations such as found in the perfectly meaningful (metaphorical) reference to *sides* or *aspects* of reality. The use of the phrase: “the word as such” by Geertsema suggests a connotative-atomistic restriction. But no single word has a privileged meaning nuance or connotation that legitimizes a view of the (singular) meaning of a word “as such.” The semantic field of a word opens up multiple options both in respect of selecting some or other meaning nuance of a word in a specific context, and with regard to the creation or deletion of meaning nuances (in which case the semantic field of a word is *expanded* or reduced). Speaking of modal functions as *aspects* or *sides* of reality therefore does make a meaningful contribution to a proper understanding of the nature of modes of being.

Furthermore, when Geertsema remarks that “[M]odal aspects are ‘modes of being’ which make possible and determine the specific nature and kinds of individual things” he overextends the meaning of modal aspects in Dooyeweerd's philosophy. The modal universality of modal aspects at most co-determine the existence of entities, but the modal aspects themselves are not responsible for the “kinds of individual things” – in Dooyeweerd's philosophy this honour is reserved for a dimension distinct from that of modal aspects, namely that of entities (individuality-structures – in our earlier parlance: type laws).

Remark: *Frege's implicit understanding of the difference between modal and typical*

This distinction is similar to the way in which Frege employs the word *quantity*. Dummett writes: “Frege so uses it that a phrase like ‘2.6 meters’ designates a specific quantity of one kind, ‘5.3 seconds’ a quantity of another kind, and so on. He thus takes quantities to be objects, distinct from numbers of any kind. There cannot be two equal quantities, on this use: if two bodies are equal in mass, they have the *same* mass. Quantities fall into many distinct types: masses form one type, lengths another, temperatures a third” (Dummett, 1995:270). Frege therefore implicitly distinguishes between the general (modally universal) meaning of *number*

and the *specifications* number can receive when it is attached (within non-numerical contexts) to different *types of quantities* - in which case he does not speak about *number* but about *quantity*. In other words: *number* is a modal term and *quantity* a specified term (sometimes specified within a non-numerical context where numbers appear analogically, and sometimes where an entity functions within the arithmetic aspect – in which case we can speak about its typicality – for instance in respect of the *mass* of a physical body).

In presenting an alternative to the terminology of aspects (modal aspects or sides) Van Woudenberg shows a preference for the term *function* (Van Woudenberg, 2003:8 ff.). But also here he and Geertsema do not realize that this term stems from just another metaphorical depiction – equally dependent upon the “cross-fertilization” currently under discussion. Our human awareness of ‘functioning’ arises from the interconnection between entities and modes of being, but this interconnection is now not specified with reference to *typical spatial relations* but rather in terms of *typical physical* phenomena. The core meaning (meaning-nucleus) of the physical aspect according to Dooyeweerd and Stafleu is *energy-operation*. When *energy operates* some or other entity or process *causes* the occurrence of *changes* (alterations) and we capture this connection by speaking of *causality*: the relation between *cause* and *effect*. And according to the general theory of modal aspects no single entity or event can *by-pass* its ‘operation’ within the physical aspect – a mode of speech synonymous to saying that no single entity or event can *by-pass* its ‘function’ within the physical aspect. By speaking of modal aspects as *functions* we have simply (metaphorically) explored the typical requirement that every entity or process displays (amongst others) also a physical aspect. Without an awareness of physical *typicality* (*typonomicity*) – involving both the dimension of entities and the dimension of aspects – the designation of aspects as *functions* would not make any sense.

6. Aspects caught up in the confusion of law and subject and universality and individuality

Dooyeweerd did not properly distinguish between *law* and *lawfulness* (law-conformity) – he simply used these expressions interchangeably. Yet the (universal) conditions for being this or that type of thing must be distinguished from the (universal) way in which particular entities evince their conformity with these conditions (laws). In being an atom or being human, this or that atom or human being (in a universal way) shows that it meets the conditions for what it is. The term “structure” is therefore ambiguous. It may refer to the *order for* (*structural law* or *structural principle for*) the existence of a specific type of entities, whereas the *structures of* these latter reveal what is correlated with (and therefore distinct from) the said *order for* entities. A *structure for* has the meaning of a *law for*, while a *structure of* represents the universal way in which individual entities reveal their conformity with the given law for their existence (also known as their *law-conformity*).

By identifying law and law-conformity Dooyeweerd strips factual reality of its *universal side*. For that reason he often explicitly speaks about the *individual factual side*. In his response to Van Woudenberg the argumentation presented by Geertsema in this regard exhibits a number of misunderstandings of the systematic philosophy of Dooyeweerd.

With Dooyeweerd he speaks about the *individualizing* of aspects. This view is mistaken, because the modal universality of the modal aspects can only be specified, but never individualized, for then the fundamental distinction between universality and individuality collapses. Individuality and universality are not the extreme ends of the same continuum. The typical way in which entities function within the modal aspects merely specifies the universal modal meaning of an aspect in a typical or typonomical way. In a footnote Geertsema aims at being “more precise than Dooyeweerd often is himself”:

[I]ndividual things have a lawside and a factualse. In the latter they express both individuality (uniqueness in comparison with other individual things) and universality (what they have in common with other individual things). So the subjectside of individual things encompasses their lawfulness (existing according to the laws that hold for them). On this basis we can gain insight in the laws they conform to” (Geertsema, 2004:67).

To my mind this quotation reflects a mixture of what is correct and incorrect. It is incorrect to assert that “individual things have a lawside and a factualse.” Created reality has a law side and a factual side. Individual things function at the factual side and therefore, in their being subjected to the law side, they do not themselves display a law side as well. Geertsema is correct by distinguishing between the unique-individual side of entities and their universal side – as long as we remember that the latter relates to law-conformity as a universal property of subjects, for then it is correct to say that the “subjectside of individual things encompasses their lawfulness” – although clarity may be gained if one simply says that the law side (law for) is universal and that at the factual side of reality we may discern both an individual side (uniqueness) and a universal side (law-conformity). In its *atom-ness* (in its *being an atom*) this *individual* atom in a *universal* way exemplifies its subjectedness to the *universal* law for its existence.

7. Are aspects mental constructs?

This *nominalistic* idea exerted an enormous influence within modern philosophy ever since Descartes declared, as we have mentioned, that “number and all universals are modes of thought” (*Principles of Philosophy*, Part I, LVII). The overall effect in respect of the ontic status of modal categories is that aspects or modal functions were no longer appreciated in their *ontic status*. But in addition to this concrete entitary reality is also stripped of its universal side, evinced in *being this* or *being that* (compare our above-mentioned example of *atom-ness*), leaving it unstructured in its unique (chaotic – Kant) factuality, because with no universality recognized outside the human understanding there is also no longer any room left for the acceptance of a universal (God-given) *law for* entities. The negative fruits of this nominalistic legacy is responsible for the modern humanistic idea that the human being *constructs* its own world. The nominalistic effect of this idea of construction found its first culmination point in the thought of Immanuel Kant who proclaimed human understanding to be the formal law-giver of nature. He holds that laws of nature are not derived from nature, since as categories of thought they are prescribed to nature in an *a priori* way. “Understanding creates its laws (a priori) not out of nature, but prescribes them to nature” (Kant, 1783, II:320; § 36). After the introduction

of historicism (beginning of the 19th century), the “linguistic turn” (beginning of the 20th century) and the advent of postmodernity (second half of the 20th century) this rationalistic idea of construction was transformed into its irrationalistic counter part – each person now constructs his/her own world.

Yet there is relative merit in Descartes's claim that ‘number’ is a mode of thought, because it is only when a given (not yet *counted*) *multiplicity* within reality is recognized by a human being that we encounter – as a response to the implicit question how many? – the concept of number. But this (human) concept of number is made possible by an *ontic mode of multiplicity* that is not created by humankind and that is also not the product of an autonomous *thought-construction*. Although he is wrong in talking about numbers as “individual things,” Frege saw something of this distinction already in 1881. In an article on “*Booles rechnende Logik und die Begriffsschrift*” (unsuccessfully submitted for publication) he said: “individual things cannot be assumed to be given in their totality, since some of them, such as number for example, are first created by thinking” (quoted by Dummett, 1995:3).

The mathematician Bernays (co-worker of David Hilbert) had a clear appreciation of the difference between the dimensions of entities (designated by him as the ‘concrete’) and the dimension of modal aspects. For that reason he introduces another kind of factuality distinct from the ‘concrete’. He questions the conception that there is only *one kind of factuality*, namely that of the ‘concrete’ (Bernays, 1976: 122).⁸ Kattsoff, for example, also makes a plea for the acknowledgment of both physical and mathematical factuality, although “mathematical objects” are “quite different from physical objects”: “They are clearly not the sort of things that can be observed by means of the senses” (Kattsoff, 1973:30). Through intellectual involvement “mathematical objects” come into sight: “In analogy to physical objects which are called sensory objects because they are observed by the senses, mathematical objects may also be called intellectual objects (or rational objects?) because they are observed by the intellect” (Kattsoff, 1973:33). Later on he calls his approach “quasi-empirical” (Kattsoff, 1973:40).

Perhaps the position of Gödel is the most significant one in connection with the *ontic status* of modal aspects. When it concerns “mathematical objects” he introduces the idea of ‘semiperceptions’ for data that cannot “be associated with actions of certain things upon our sense organs” (quoted by Wang, 1988:304). He writes:

“It by no means follows, however, ...” that they “are something purely subjective as Kant says. Rather they, too, may represent *an aspect of objective reality* (my emphasis - DS), but, as opposed to the sensations, their presence in us may be due to another kind of relationship between ourselves and reality” (cf. Wang, 1988:304).

⁸ “Es scheint, daß nur eine vorgefasste philosophische Ansicht dieses erfordernis bestimmt, die Ansicht nämlich, daß es nur *eie* Art von Tatsächlichkeit geben könne, diejenige der konkreten Wirklichkeit” (Bernays, 1976: 122).

Wang is “inclined to agree with Gödel,” but he does “not know how to elaborate his assertions” (Wang, 1988:304). He says that he “used to have trouble by the association of objective existence with having a fixed ‘residence’ in spacetime”, but he now feels “that ‘an aspect of objective reality’ can exist (and be ‘perceived by semiperceptions’) without its occupying a location in spacetime in the way physical objects do” (Wang, 1988:304). It is evident that Gödel and Wang here considers the “reality” of “ontic” (‘objective’) “aspects of reality”

It must be added that Bernays also does not want to allow for a completely arbitrary construction of an axiomatic system: “One cannot justifiably object to this axiomatic procedure with the accusation that it is arbitrary since in the case of the foundations of systematic arithmetic we are not concerned with an axiom system configured at will for the need of it, but with a systematic extrapolation of elementary number theory conforming to the nature of the matter (*naturgemäß*).”⁹

8. Do the various disciplines study modal aspects?

This is a fairly widespread misunderstanding of Dooyeweerd's view of the nature of scholarship in relation the modal aspects of reality – even among scholar within the tradition of reformational philosophy itself. It sounds fairly unproblematic to assert that every special science studies a specific modal aspect – for example when it is stated that the discipline of economics studies the *economic aspect*, the discipline of law the *jural aspect*, and so on. This misunderstanding inspired particularly theologians to react and to claim that one cannot restrict theology to just one part of reality. This objection of course once again falls back into the mentioned mistaken view that aspects are ‘parts’ of reality. But once this error has been corrected it still seems as if they have a valid objection.

However, the fact of the matter is that an analysis of the structure of a modal aspect *precedes* every special scientific approach. Dooyeweerd points out that it “is not the empirical phenomena in their totality which can offer a criterion for the delimitation of these areas of scientific study” for the “very same phenomena which physics investigates in terms of the operation of physical energy are considered by biologists under the aspect of organic life” while, for the “science of history, these phenomena may take on a historical aspect” (Dooyeweerd, 1996:7). And a few pages further on he writes:

Every scientific discipline does this when it seeks to investigate empirical reality from a specific point of view. But in this investigation it does not focus its theoretical attention upon the modal structure of such an aspect itself; rather, it focuses on the coherence of the actual phenomena which function within that structure. Where they are grasped only in certain specific, abstract aspects, these phenomena no longer come into view in their integral reality but only in terms of specific modal functions” (Dooyeweerd, 1996:10).

⁹ “Gegen diese axiomatische Vorgehen besteht auch nicht etwa der Vorwurf der Willkürlichkeit zu Recht, denn wir haben es bei den Grundlagen der systematische Arithmetik nicht mit einem beliebigen, nach Bedarf zusammengestellten Axiomensystem zu tun, sondern mit einer *naturgemäßen systematischen Extrapolation der Elementare Zahlenlehre*” (Bernays, 1976:45).

In other words, as far as the full concreteness of reality is concerned no restriction applies to any special science, every one of them can look at the entire empirical reality – with just one proviso: from the point of view of some or other modally abstracted aspect!

9. Conclusion

Having set some of the most important prevailing misunderstandings of the theory of modal aspects ‘straight’ calls for a more systematic exposition of the positive side of the coin – accounting for the nature of modal aspects and for the criteria available to help us in identifying unique and irreducible aspects. But this task has to be allocated to a subsequent article.

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