Beyond Emergence: Learning from Dooyeweerdian Anthropology?

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Abstract

In dialogue with Gerrit Glas' contribution to this volume[1], this chapter interacts with two clusters of concepts of emergence, drawing on Dooyeweerdian insights in order to provide a thorough critique of them and to provide an alternative proposal. It starts from the concept of emergence as used today in analytical philosophy of mind, discussing Jaegwon Kim's critical work on emergence, Philip Clayton's emergentist "ontological monism," and non-reductive physicalism. Drawing on Dooyeweerd's modal aspects, I conclude that this type of emergence cannot fulfil the promise of providing a satisfactory non-reductive view. The article then discusses a concept of emergence used in the context of phenomenology and developed by a group of philosophers inspired by Francisco Varela. Proponents of this second approach share some concerns with a Dooyeweerdian-inspired critique of analytical emergence, but their explicit stance against creation leads them to develop co-emergence in accordance with Buddhist "emptiness." This chapter then examines Dooyeweerd's refusal of mind–body dualism, linked to his rejection of the concept of substance and "*logos* speculation." Based on the biblical warrant for the role of the divine *Logos* in creation, I conclude, over against Dooyeweerd, that the concept of substance can be redeemed and that a minimal form of dualism is necessary in order to account for the Bible's teaching about humans. Adopting a realist reading of the multidimensionality of human existence uncovered by Dooyeweerd's modal-aspects analysis, we arrive at a truly non-reductionist view of human nature, which the two forms of emergence examined here aimed at but could not provide.

Keywords

Emergence, *Logos*, Non-reductive physicalism, Substance, Dualism, Mādhyamaka Buddhism, Herman Dooyeweerd, Jaegwon Kim, Philip Clayton, Francisco Varela

On Emergence

Lately, *emergence* has become a popular concept in analytical philosophy of mind. It holds the promise of being a third option in addition to reductionism and dualism, which are both deemed to be debunked positions in anthropology. The ever-increasing wealth of neuroscientific data, showing the intimate dependence of all cognitive functions on the brain,[2] and the standard account of the gradual

[1] I would like to thank Professor Glas for the invitation to explore, in response to his paper, the prospects of emergentist views of the human person—and of reality in general—in the context of reformational philosophy.

[2] It bears mention that not all neuroscientific research points in the direction of monism: despite ever more precise observations of the dependence of the mind on brain functions, there is an emerging body of anecdotal evidence related to so-called near-death experiences. They may suggest an operation of the mind during time intervals where no brain function can be measured (cf. Beauregard and O'Leary 2007, 153–166). Several

evolution of human intelligence, leave (according to received wisdom) no hope for any dualist account of human nature. But wholesale reductionism—of which eliminative materialism is the most consequent form—provides us with a very diminished picture of the human person. Any claim that it is possible to build a satisfactory anthropology on this ground is no more than a huge promissory note on future developments of science and philosophy, of which we have no idea whatsoever at the present time. Among the most challenging difficulties for any reductionist account of mind are the "hard problem of consciousness," the intentionality of descriptive thought, and the normative character of reason. Thus, emergence raises the hope of offering a non-reductive anthropology compatible with the latest findings of neuroscience and evolutionary biology.

Despite its attractions, however, the concept of emergence faces serious problems. It is far from clear that advocates of emergence have been able to answer these challenges in a satisfactory manner. Let me name some of them.

(1) There are not one, but many concepts of emergence, even inside philosophy of mind done in the analytical style. Gerrit Glas mentions weak (or epistemological) and strong (or ontological) emergence. One can also distinguish between global and local emergence (Kim 1993, 68ff., 79–91).[3] Thus it is necessary in each case to explore the weaknesses and strengths of the concept in use. Jaegwon Kim has provided groundbreaking work in this regard, and his conclusions are rather pessimistic with regard to the hopes invested in emergence (Kim 1999, 2006).

(2) The standard analytical account of strong emergence makes crucial use of the supervenience relation. *Supervenience* is thought to be the key concept which allows the emergent level to be dependent on the base level without being reducible to it. But it has proven to be awfully difficult to combine these two aspects. Based on his careful and detailed analyses, Kim observes:

> The main difficulty has been this: if a relation is weak enough to be nonreductive, it tends to be too weak to serve as a dependence relation; conversely, when a relation is strong enough to give us dependence, it tends to be too strong—strong enough to imply reductibility.[4] (Kim 1999, 276)

(3) Emergence is a popular catchword, and the underlying intuition has wide appeal. But if emergence is more than wishful thinking, one needs some positive account of how the emergent level emerges from the base level. It is fair to say that emergentist accounts have overall not gone very far in providing a clear, positive description of emergence. It is particularly urgent for any viable emergentist picture to explain how downward causation is possible, without falling prey to causal overdetermination.[5]

(4) It seems that the lack of positive content will not be overcome by pushing further the technicalities of emergentist accounts, but that the lack of positive content is, so to speak, a congenital disorder. It is directly linked to the claim that emergence is non-reductive. Remember what this implies: emergence without reduction means that we cannot provide any finite translation between base and emergent properties. But in analogy to Leibniz's analysis of contingent events, "there is still a perfect description 'at the far edge of infinity.'[6] The supervenience [and by analogy the emergence]

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scientific studies are currently being undertaken in order to evaluate the solidity of the evidence reported. For a critical presentation of the phenomenology and neurology of near-death experiences, cf. Blanke and Dieguez (2009).

[3] For an overview of different notions of emergence, see also Clayton (2004, chaps. 1 and 2) and O'Connor and Wong (2009).

[4] Cf. my analysis of the notion of supervenience in David Lewis' philosophy in Jaeger (2007, 152–165).

[5] A point made by Kim (2006, 557). Cf. my critique of non-reductive physicalism in Jaeger (2012a, 295–312).

[6] Expression inspired by Pascal ([1670] 1976, 114, pensée no. 233).

claim then still entails only that there is, so to speak, a reduction for God or for the angels, just not for finite beings like us"[7] (Van Fraassen 2004, 474).

Given that no finite description of the emergence relation will ever be available (as long as it is non-reductive), the Dutch-born philosopher of science Bas van Fraassen asks, in the context of supervenience of the human person on the physical properties of the body: "What are the benefits of believing in such a relation of persons to physical objects? The mere assurance of consistency? Cold comfort! Add to this that no such ideal 'physicalist' language exists, or is likely ever to be had. . . . Why play these games?" (ibid.). At best, emergence provides a convenient metaphor for the conviction that the human mind is "embodied," but it is the hard work of filling in the metaphor that really matters, as Glas observes: "Emergence . . . is not an explanatory, but primarily a philosophical concept. As an idea, or paradigm, it opens our imagination. But it is also the cloth that conceals our explanatory ignorance" (Glas, this volume,).

The Crucial Importance of the Base

Emergence is meant to provide an alternative to reductionism and dualism. Unlike dualism, it relies on a unified base level from which higher levels emerge. Unlike reductionism, it considers that higher levels cannot be disposed of in a complete description of the system. The "flavour" of an emergentist account depends crucially on the choice of the base. Under the influence of neuroscience and evolutionary biology, virtually all emergentist accounts rely on a physicalist base. A classic definition, provided by C.H. el-Hani and A.M. Pereira, mentions *ontological physicalism* as one ingredient of emergence: "All that exists in the space-time world are the basic particles recognized by physics and their aggregates" (Clayton [2004, 4], relying on El-Hani & Pereira [2000, 133]). In the *Stanford Encyclopedia of Philosophy*, one reads: "Ontological emergentists see the physical world as entirely constituted by physical structures, simple or composite" (O'Connor and Wong 2009). In contemporary philosophy of mind, an influential emergentist position has even been dubbed, revealingly, non-reductive *physicalism*: "*The physicalist thesis is that as we go up the hierarchy of increasingly complex organisms, all of the other capacities once attributed to the soul will also turn out to be products of complex organization, rather than properties of a non-material entity*" (Murphy 2000, 57; italics in original). In contrast, Philip Clayton explicitly rejects ontological physicalism and offers *ontological monism* instead:

> Reality is ultimately composed of one basic kind of stuff. . . . The one "stuff" apparently takes forms for which the explanations of physics, and thus the ontology of physics . . . are not adequate. We should not assume that the entities postulated by physics complete the inventory of what exists. (Clayton 2004, 4)

As has often been noted, it is remarkably difficult, if not impossible, to give a positive empirically testable content to the claim of physicalism. Nobody would want to claim that present-day physics reveals the whole truth about the world. Thus physicalism must be about the completeness of some future, perfected physics. But who knows today what this perfected physics will look like? Therefore, as Van Fraassen puts it, physicalism "is not identifiable with a theory about what there is, but only with an attitude or cluster of attitudes. These attitudes include strong deference to science in matters of

[7] Bas van Fraassen proposed the comparison with Leibniz at a conference on February 10, 2004, at the CRÉA, Paris.

opinion about what there is, and the inclination to accept (approximative) completeness claims for science as actually constituted at any given time" (Van Fraassen 1996, 170).[8]

If physicalism is a difficult notion to pin down, Clayton's ontological monism is even more so. In fact, as it stands, even Descartes could have accepted it; it suffices to define the "basic kind of stuff" as all that is created. But if Clayton's definition does not exclude Cartesian dualism, this definition cannot really accommodate emergentist intuitions. Thus it does not provide an alternative to the standard account of emergence which considers that physics completely describes the most basic level.

Even if we leave aside the difficulty of how to precisely define physicalism, the conviction that the basic elements of reality are precisely those which (a conveniently completed) physics includes is, in my diagnosis, the fatal flaw which prevents emergence from offering a sufficiently robust antireductionist view. Despite better intentions, emergence will never truly be non-reductive as long as it sets out with a physicalist base. All the difficulties of emergence we have encountered—how to strike the right balance between dependence on the base level and non-reductivity of the emergent level, how to describe positively the emergence relation, and how to avoid causal overdetermination in downward causation—are consequences of the refusal to break wholeheartedly with such a limited picture of the world.

Let us examine how this insight is confirmed in the specific case of non-reductive physicalism. Holding to a complete physical description of the base level, philosophers of mind who adopt this position also consider that rational thought is possible and even exerts a real influence on the world (typically through top-down causation). As attractive as this position may be, respecting both the physical image of the world and the avoidance of reductionism, it can be retained only if we have an idea of the way in which the complete physical description at the microscopic level can coexist with mental top-down causality. For it is not enough to propose two postulates, even if both are desirable, if we have not shown that they are compatible. The non-reductive physicalist is therefore faced with the delicate task of providing details of the relationship between cerebral states and mental states to show that a complete physical description of the brain is indeed possible without having to give up the existence of the mind. Clearly neither the relationship of identity nor the relationship of causality provides a satisfactory account. If mental states are identical or directly caused by cerebral states, they are at best epiphenomena, which means that no top-down causality can exist.

Non-reductive physicalists consider that *supervenience* provides the appropriate relationship between brain states and mental states, which allows for both a complete physical description and for freedom of thought. The fundamental idea of supervenience is easy to grasp: "No difference of one kind without a difference of another kind" (Kim 1993, 155). Nancey Murphy proposes the following definition:

> Property *S* is supervenient on property *B* if and only if something instantiates *S* in virtue of (as a non-causal consequence of) its instantiating *B* under circumstance *c*. (Murphy 1998, 134)

But this definition, despite its technical allure, is no more precise than the simple slogan "no difference of one kind without a difference of another kind." The key point is the relationship between the basic properties *B* (cerebral states, in this case) and the properties *S* that supervene (mental states). Designating it by the vague expression "in virtue of" hardly gets us anywhere, and the same is true of the negative statement that it is a non-causal relationship. Thus, non-reductive physicalism does not overcome the congenital vagueness of emergentist accounts which was noted above. At best, it is a promise that requires further and more precise work to show whether it is a tenable position; at worst, it is incoherent.

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[8] To be precise, Van Fraassen offers this diagnosis for materialism, but it easily transfers to physicalism.

Moving Beyond Emergence: Dooyeweerd's Modal Aspects

At this point, we have seen that the cluster of concepts of emergence as used in contemporary analytical philosophy of mind does not deliver on the promise of providing a truly non-reductive view. In fact, despite its best intentions, it has not made a wholehearted break from the dogma of physicalism. To put it in Dooyeweerdian terms: it is still caught in the antinomy of nature and freedom, characteristic of autonomous thought in modern times (Dooyeweerd 1975, 36–37, 45–51; see also the below section on Dooyeweerd's rejection of substance dualism).

How does one move forward from this admission of failure? Another of Herman Dooyeweerd's insights can help us at this point, to wit, his concept of modal aspects. Dooyeweerd defines *modal aspects* as "special viewpoints under which the different branches of empirical science examine the empirical world." He takes the ego to be "a supra-temporal, central unity," but human experience "is refracted in the order of time into a rich diversity of modi, or modalities of meaning, just as sunlight is refracted by a prism in a rich diversity of colors" (Dooyeweerd 1975, 7–8). Dooyeweerd lists the following 15 modal aspects: quantitative, spatial, kinematic, physical, biotic, sensory, logical, historical, linguistic, social, economic, aesthetic, justitial, ethical, and fiduciary. They are arranged in a hierarchy of modes of experience. Depending on the context, one of these modal aspects becomes predominant, although the others will never be completely absent (cf. Clouser 1996, 83–86). For the modal aspects are abstractions arising from the distinct methodologies of particular sciences, such that every object already exists in the totality of these spheres. In certain spheres, it has only passive capacities, while in others it has both active and passive capacities. Take a stone, for example. It can move and be moved: as far as kinetics is concerned, it has active and passive capacities. But in terms of linguistics, it only has passive capacities, since a stone cannot speak; it can, however, be spoken of. Similarly, it has passive economic capacities because it can be a currency for trade—i.e., it can be considered a "precious" stone. In this sense, a stone exists in all the spheres, even if only passively.

Emergentism starts from a physical description of reality, into which one tries to fit the higher levels, and, in particular, human cognitive functions. Instead, Dooyeweerd's analysis allows us to start from an honest acknowledgement of the multiple dimensions of reality. In fact, there is not (and never was) a purely physical world from which higher levels of organisation have emerged. Therefore, it should not come as a surprise that an account which singles out one facet of reality (i.e., whatever is accessible to physics) is doomed to fail when we want to use it for understanding other aspects of reality.

Emergence Without Foundations

Evan Thompson and other philosophers inspired by Chilean-born biologist Francisco Varela also point out that any emergentist account starting from physics fails to do justice to human experience. Despite their use of the term *emergence*, they work inside a framework significantly divergent from that of analytical philosophy of mind. The starting point is the concept of *autopoiesis*—literally meaning "self-creation"—developed by Humberto Maturana and Francisco Varela in order to describe the self-sustaining of living beings. The broader framework is provided by Husserlian phenomenology (ultimately going back to Kant). Thinkers in this group are convinced that first-person experience is primitive: "Francisco [Varela]'s insight was that no purely third-person, theoretical proposal or model

would suffice to overcome" the "conceptual gap between subjective experience and the brain." Thus, "experience is . . . irreducible" (Thompson 2004, 383). But it would be wrong to read this statement simply in the sense of emergentism or dualism: the irreducibility of experience in this approach is of a much more fundamental kind than in any traditional account in philosophy of mind. Whether reductionist, dualistic, or emergentist, they all share the quest for a third-person account of consciousness, but "life can only be known by life" (Thompson [2004, 393], quoting Weber and Varela [2002, 110]).

Philosophers in this group still use the concept of emergence, but in a very different sense from what we have studied so far: there is no question of starting with a base level and deriving emergent levels from this foundation. In fact, they consider that the difficulties of standard analytical accounts of emergence outlined above cannot be overcome without a radical change of paradigm. *Autopoiesis* thus goes beyond the ordinary ideas of emergence and self-organization and holds that in certain circumstances the elements are only constituted by their inclusion in the larger system. A cell membrane is an example: although the membrane is a constitutive part of the cell, it does not exist without the cell; only by their inclusion in the cell do the molecules forming the membrane acquire their function as a membrane. Similarly, neurons do not exist apart from the brain (Gregersen 1998, 335–337). On the level of fundamental particles, the statistics applying to quantum systems[9] show that it is not possible to distinguish individual particles in a quantum system containing multiple identical particles (cf. Bitbol [2007] for further arguments from quantum field theory).

The account which philosophers inspired by *autopoiesis* offer is self-consciously anti-foundational (Thompson 2004, 391):

> Emergence is present when there is no way to analyze a system into pre-existing parts and resultant whole. . . . Part and whole are completely interdependent: an emergent whole is produced by a continuous interaction of its parts, but these parts cannot be characterized independently from the whole.

Thus it would be more correct to speak of co-emergence than of emergence: it is not just that the whole emerges from pre-existing parts, but these parts cannot be understood without reference to the whole. This is not a minor change in wording, as Michel Bitbol, another philosopher of science linked to the same network, explains.[10] In his paper "Ontology, Matter and Emergence," Bitbol emphatically acknowledges the failure of ontological (or strong) emergence in the sense of its ordinary use in analytic philosophy of mind. He diagnoses as the root of all puzzles to which emergence gives rise the reification of both the base and the emergent level, with a resulting asymmetry between them. Instead,

> the overall process of which we partake by our actions and cognitive relations has no fundamental level on which everything else rests. It has no absolute fundamental level and no absolute emergent level either, but it has co-emergent order. According to Wittgenstein's beautiful metaphor: "One might almost say that these foundation-walls are carried by the whole house." (Bitbol [2007], quoting Wittgenstein [1974, 33–34])

Such an analysis can be applied to a variety of contexts: the articulation between the social and the mental level, between the mental and the biological level, and between the biological and the physical level. But even inside physics, co-emergence takes place: as we have seen, the very idea of individual

[9] The Fermi-Dirac statistics apply to fermions (e.g., electrons) and the Bose-Einstein statistics to bosons (e.g., photons).

[10] All have links to the Mind and Life Institute, which started from discussions between Francisco Varela and the Dalai Lama and explores the relationship between Buddhism and science.

particles having distinctive properties is very problematic in quantum mechanics, so that there is no straightforward atomistic base level from which to start.

This co-emergentist account directly resonates with Buddhist non-ontological thought: the Middle Way of Mādhyamaka Buddhism, systematized by Nāgārjuna in second-century India, is an important source of inspiration for this view on emergence (Bitbol 2007, 2010; cf. Varela et al. 1991).[11] The reification of base and emergent levels is countered by the "emptiness" of both of them, where *emptiness* is "the Buddhist technical term for the lack of independent existence, inherent existence, or essence in things" (Garfield 1994, 219). Instead of considering that fundamental particles exist prior to and independently of emerging levels, these philosophers advocate a relational, interdependent view of reality, in which it is impossible to conceive of individual entities without taking into account the whole universe. Whereas analytical emergentist accounts argue for the "real" existence of emergent properties by trying to show their causal powers (via top-down causation), Varela's friends concur with the critique in the first chapter of Nāgārjuna's *Mûlamadhyamakakârikâ* of properties having causal powers in themselves. Instead, Nāgārjuna makes use of a non-substantial concept of causality that relies on conditions and conditioned events which "are both empty of inherent existence; . . . yet they are co-dependently arising and are in turn connected similarly with other events or phenomena" (Bitbol 2007, 304). Thus "the whole process [of emergence] is *groundless throughout*. . . . Not emergence of large scale absolute properties out of small scale absolute properties, but *co-relative* emergence of phenomena. These phenomena, in turn, are to be construed as relative to a certain experimental context" (Bitbol 2007, 304–305).

This "groundless" view of emergence which admits of no truly fundamental level is explicitly offered as an alternative to a view of reality based on creation, as it no longer needs any foundation or grounding of reality:

> The concept of co-origination, or non-foundational origin, . . . is currently to a large extent in competition with the opposing paradigm of foundational origin, and causes problems for its metaphysical correlate, the creation-creator pairing. . . .
> One has yet to implement the alternative schema of anti-foundationalism: no ultimate basis for a reduction to the lowest level of organization, nor ontologically autonomous emergent properties at higher levels of organization, but a co-production of one by another. . . .
> This way of thinking is spreading; it has many areas of application and has met with resounding success. Slowly but surely, it is relegating its foundationalist opponent, and with it the metaphor of creation, to methodological and cultural history.[12] (Bitbol 2004, 28–30)

As the Buddhist view of the world has no place for the transcendent grounding of reality in the Creator God, so this view of co-emergence has no need for a grounding of higher levels in a base level.

The Heart as the Centre of Knowledge

No reformational philosopher would want to follow the anti-creationist interpretation of the concept of co-emergence. Nevertheless, there are significant points of contact between the anti-foundationalist view of co-emergence and the Dooyeweerdian corrective of the standard account of emergence I described earlier. Having both developed in dialogue with Husserlian phenomenology, they take human experience as irreducible, a reality to be reckoned with, prior to any theorizing. Both arrive at a

[11] For an introduction to the Middle Way, see Garfield (1995).
[12] Translation by Jonathan Vaughan.

similar diagnosis of the radical evil of emergence as it is ordinarily understood: its singling out of one aspect of reality as basic. And one may also recall Dooyeweerd's rejection of the concept of substance, which is akin to the conviction of co-emergentists that it is an unnecessary, or even noxious, reification of phenomena. In his own words, "the metaphysical concept of substance ever rests upon the hypostatization of theoretical abstractions" (Dooyeweerd 1953, 203; cf. the below section on Dooyeweerd's rejection of substance dualism).

Such common character traits lead one to hope that the work provided by Thompson, Bitbol, and others can also prove fertile for reformational philosophers. Remember Gerrit Glas' praise of Evan Thompson's "landmark study" *Mind in Life* (2007) as being "one of the most detailed and groundbreaking studies . . . on the principles of self-organization applied to psychology and neuroscience" (Glas, this volume,). The anti-creationist stance of co-emergentist authors should nevertheless cause us to stop and think. It will certainly be impossible at a very deep level to integrate their work with a view of reality which seriously takes creation into account. In fact, may I dare to suggest that some of the similarities observed between non-ontological co-emergence and Dooyeweerdian ideas point to an idealistic bent in Dooyeweerd's system of thought itself, becoming apparent in the strategic role he gives to the self in knowledge? This idealistic trend in Dooyeweerd's thinking is intimately linked to his critique of the theory of the *logos*. In this section, therefore, we will examine how Dooyeweerd grounds knowledge in the self, before turning in the next section to his critique of what he calls *logos* speculation. The final two sections will then indicate how to redeem *logos* epistemology from Dooyeweerd's critique and provide some hints as to ways in which Dooyeweerd's ideas might be revised, in order to arrive at a truly satisfactory view of multidimensional reality as based on creation.

The debt which Dooyeweerd owes to Kantian-type idealism has often been emphasized. Despite his severe critique of Kant for falling prey to the antinomy of nature and freedom, Dooyeweerd not only uses some of Kant's terminology (most prominently the term *transcendental*), but he also takes human, pre-theoretical experience as the anchor point of knowledge, an emphasis shared with Kant-inspired strands of philosophy such as Husserlian phenomenology. The central role of the human subject shows itself in Dooyeweerd's account of theoretical thought. Just as Kant had asked how natural science is possible, Dooyeweerd wants to know how theoretical thought is possible. He distinguishes between naïve pre-theoretical experience, which establishes an immediate contact with reality, and theoretical thought (science, in the broad sense of *Wissenschaft*). Naïve experience is integral or holistic in nature (Dooyeweerd 1948, 32–33). In contrast, theoretical thought applies the logical aspect of thought to the concrete reality of naïve experience and thus "produces an *antithetical relation* in which the *logical aspect of our thought* is opposed to *non-logical aspects of reality*." Dooyeweerd calls this antithetical relation "*gegenstand*-relation" (ibid., 29–30). The German term *Gegenstand* is used for an object of theoretical thought, apprehended according to one of the modal aspects which is chosen for investigation (see the above section entitled "Moving Beyond Emergence: Dooyeweerd's Modal Aspects"). As an abstraction, it is to be sharply distinguished from empirical reality: "the *Gegenstand* is always the product of a theoretical abstraction by which a non-logical aspect of reality is opposed to the logical aspect of our thought" (ibid., 51).

Given the antithetical relation involved in theoretical thought, the problem of the unity of the different modal aspects emerges: how can we guarantee the coherence of the different perspectives, each corresponding to a specific modal aspect, with respect to which analytical thought is applied to temporal experience (Dooyeweerd 1953, 39)? The question of the possibility of theoretical thought thus takes the following form: "*From what starting point is it possible to apprehend integrally in a synthetic view the diverse aspects of reality which are separated and opposed to one another in the antithetical relation?*" This is "the central . . . problem of our transcendental critique" (Dooyeweerd 1948, 36). The solution cannot be found in theoretical thought itself, because it is based on the very

antithetical relation which constitutes the problem: "the point of departure of theoretical thought must transcend the opposed terms of the antithetical relation" (ibid., 51). This is the reason why theoretical thought cannot be autonomous, in Dooyeweerd's view. It needs a transcendent concentration point that alone can unite the logical and non-logical aspects. This concentration point is found in the human self: "It is the hidden player playing on the keyboard of theoretical thought" (ibid., 54). Transcending the temporal experience characteristic of modal aspects, the self is supra-temporal for Dooyeweerd, who identifies it with the *heart* in which the Creator has set eternity (Prov. 4:23; Eccles. 3:11; Dooyeweerd 1953, 31n1). Here lies the religious root of human existence, as "self-knowledge . . . is *always correlative to knowledge of God*" (Dooyeweerd 1948, 53). It provides the "central point where all the aspects of our conscious and empirical reality *converge in a radical unity*" (ibid., 49).

Dooyeweerd's Rejection of the *Logos* Speculation

For Dooyeweerd, the heart as the supra-temporal concentration point answers the problem of theoretical thought and thus guarantees the possibility of knowledge. As the antithesis characteristic of *Wissenschaft* is introduced by the theoretical activity of the *ego* itself, the latter is also able to guarantee its synthesis. Thus in Dooyeweerd, the supra-temporal self takes on the role that the *Logos* played in traditional Christian epistemology.[13] In older accounts, knowledge was grounded in the *Logos*. The correspondence between the knower and the world to be known was guaranteed by the double presence of the *Logos*: human knowers are created in the image of him who also provides the order for the world. This is the reason why creation order is both objective and—at least partially—accessible to humans.

Dooyeweerd is conscious of his departure from traditional Christian epistemology, and he condemns in very strong terms what he calls the "*logos* speculation" (Dooyeweerd 1953, 177–178, 181, 560n2; Dooyeweerd 1955, 506). He not only rejects not fully Trinitarian versions of the *logos* theory adopted during the first centuries of church history (he names the Apologists, Tertullian, Clement of Alexandria, and Origen), but he also critically scrutinizes its "definitive, 'orthodox' form in the thought of Aurelius Augustinus" (Dooyeweerd 1997, 80). In Dooyeweerd's analysis, it is inconsistent with a truly Christian worldview and was borrowed by Augustine from pagan philosophy:

> Augustine did adopt the Plotinian theory of degrees of reality, although he restricted it to the created cosmos. He also adopted the Stoic theory of germinal forms in the material world, albeit in a semi-Plotinian accommodation to the scriptural motive of creation. Most seriously, he adopted both the theory of the Logos as the seat of the divine creative ideas and the whole theory of the objective actualization of these ideas in the material world. All these speculative philosophical doctrines were inseparably tied to the ground motive of form and matter, whose religious nature was intrinsically pagan. Nevertheless, this was realized neither by Augustine and the scholastics who followed him, nor by Kuyper, Bavinck, and Woltjer, who followed Augustine in their logos theory.
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> We can grant that the accommodation of these pagan conceptions to the scriptural doctrines of the Trinity and of creation changed their original meaning to a certain extent. It is equally true, however, that because of this process of accommodation the Christian ground motive could no longer make itself felt in philosophical and theological thought in an unadulterated way. (Dooyeweerd 1997, 80)

[13] My interest in the place of the *logos* in Dooyeweerd's thought arose from a comment on this replacement which Henri Blocher made in his course on contemporary thought (*Pensée contemporaine*, Faculté libre de théologie évangélique de Vaux-sur-Seine, 1991/1992, notes taken by Laurent Clemenceau). At and after the conference in Amsterdam, Rob A. Nijhoff and René van Woudenberg provided very relevant comments and references which helped me to get a better grasp of Dooyeweerd's critique of the *logos* theory.

An elaborate critique of the "speculative *logos* theory" can be found in his article "Kuyper's [*sic*] Wetenschapsleer" (Kuyper's philosophy of science). The *logos* theory results in a "logicistic-idealistic orientation" (Dooyeweerd 1939, 224[14]), which gives priority to the logical aspect instead of fully recognizing sphere sovereignty, which would allow all modal aspects to make their unique and irreducible contribution to human experience. He uncovers a deep harmony between the *logos* theory, realism about ideas (in the Platonic sense), and body–mind dualism (ibid., 197). It goes without saying that he wholeheartedly resists all of these. According to Dooyeweerd, the *logos* theory starts out with a conception of the divine essence as being rational, thus applying human thought categories to God and generating the antinomy between God's intellect and God's will, which lies at the origin of much debate between scholastic rationalists and voluntarists. Taking a realist position as concerns ideas, it includes these concepts of reason in the divine *Logos* so as not to allow them a status independent from God. They guide the creative act and are thereby expressed in the world (ibid., 214–215). As human beings are made in the image of God, this conception of the divine *Logos* leads to an understanding of the "soul as a unity [lit. substance] centered in the intellect" (ibid., 200). Such a view of the soul replaces the religious centre of human existence, the heart, with "a *theoretical abstraction from the full temporal existence* of the human being," thereby generating mind–body dualism—whether Platonic, Aristotelian, Thomist, or Cartesian in kind (ibid., 204). Therefore, the *logos* theory no longer perceives the grounding of knowledge in the heart and looks instead to a correspondence between human reason and a rational order inherent in the world, independent of the logical aspect of human thought. By doing so, it reifies the logical aspect and neglects the mutual coherence and dependence of all modal aspects, abolishing sphere sovereignty (ibid., 223–225; cf. Dooyeweerd 1953, 560).

Back to Scripture

Those who have come to appreciate Dooyeweerd's insights—in particular his perspicuous analyses of different thought systems—will not easily dismiss his critique of the *logos*. Nevertheless, it is the concern, which we share with Dooyeweerd, for a truly Christian worldview, rooted in the divine Word-revelation, which leads us to pause. After all, it is John the Evangelist who first called the pre-existent Christ by this title. And it is the epistle to the Hebrews which affirms that the Son gives consistence to the world "by his word" (Heb. 1:3; cf. Col. 1:17). Certainly one should not read all later *logos* speculations into these texts. But the New Testament authors did not ignore the connotations which the term *logos* had for all those in contact with Hellenistic culture. Let us remember that, according to tradition, John wrote at Ephesus, and that the epistle to the Hebrews shows some affinities in vocabulary and ideas with Philo's synthesis of the Torah and Platonism. The concept of the *Logos* active in creation thus brings together the Old Testament tradition of creation by the word (Gen. 1:3, 6, 9, 11, 14, 20, 24, 26; Ps. 33:6) and of wisdom present in creation (Prov. 8:22–31), on the one hand, and the Greek concept of the *logos*, universal Reason which permeates the world and confers to it its harmony and order, on the other (Blocher 1974, 2011).

Dooyeweerd's critique of traditional *logos* theories can help us to discover traces of pagan thought in certain Christian theologians. This is most obvious for primitive versions which consider that the *Logos* is a divine being of inferior rank compared to the Father. But even Augustine, who as few others helped to formulate the orthodox doctrine of the Trinity, may not have succeeded in freeing

[14] For the English rendering of the Dutch text, I follow the translation in Bishop and Kok (2013, chap. 14). Page numbers refer to the Dutch original.

himself completely from alien influences. Most notably, he resorts to Platonic ideas when explaining the rationality of creation. As they cannot exist independently from God, he includes them (as Philo had done before him) in the divine mind. God started from these ideas in his creation work; this guarantees that creation is neither arbitrary nor without reason (Augustine 1950, 287; cf. Wolfson 1956, 281–826). However, is this compatible with strict monotheism? If the divine mind already contains a prototype of the world (in the form of ideas), the world acquires a (quasi-)eternal status, if only in God's thought. It can thus claim some shared status with God. The inadequacy of Augustine's proposal becomes obvious in the difficulty it has in differentiating between creation and the Incarnation: such an understanding "must define the Creation as the material embodiment of the Word, and it can define the Incarnation in no other way" (Foster 1936, 9). As a Christian theologian, Augustine maintains the link between creation and God's will; but the dependence of creation on ideas in the divine mind makes it difficult to distinguish properly between intra-Trinitarian relations and God's *ad extra* works, leading John Milton to conclude that "this tension between a theology which emphasized the free-creative will of God and a philosophy in which explanations were ultimately grounded on the intrinsic necessity of the Ideas was never adequately resolved by Augustine" (Milton 1981, 188). In the end, this conception allows Platonic ideas to play, with regard to creation, the role which the New Testament gives to the Son of God. There is therefore, as Colin Gunton observes, the risk "that the coeternal and personal mediator of God's creating work is effectively replaced by the almost eternal Platonic forms. The Logos is crowded out by the logoi" (Gunton 1997, 93; cf. Jaeger 2012c, 36–38).

But the existence of insufficient versions of the *logos* theory does not necessarily imply that we should give it up altogether. Its basis can be found in the New Testament; the Christian philosopher has the task to draw out its epistemological consequences. Errors of the past will certainly make us very prudent here. In particular, every effort must be made to safeguard the distinction between Creator and creation: "*The starting-point, taught by Scripture, is the Creator-creature pattern*" (Blocher 1990, 16). But this is the very reason why we have to listen to *Scripture* in order to get some grasp of the distinction between the Creator and his creation: our reason needs to be guided by the Creator's revelation if we want to speak truly about the distinction between him and the world. We will not yield to any preconceived conception, not even that of an opposition between the two.[15] For the biblical authors, the world-structuring activity of the *Logos* is obviously not incompatible with divine transcendence. And they did not fear that certain concepts shared with Greek philosophers would corrupt the purity of their teaching.[16] God being the Creator, all truth is his truth, even when it is found with a pagan. Thus the biblical worldview is not the opposite of Greek thinking.

Dooyeweerd's Rejection of Substance Dualism

As we have seen, Dooyeweerd's rejection of *logos* epistemology is coherent with the prominent role he attributes to the human self: the latter both brings forth the *Gegenstand*, apprehended according to

[15] It is one of the paradoxes of Dooyeweerd that he never enters into close dialogue with the biblical text, although he holds to the authority of the divine verbal revelation. (Historically, this silence may have been, at least partly, due to accusations raised against him by theologians at the Vrije Universiteit, which made him very cautious of moving into the explicitly theological realm, not being a professional theologian himself.) In addition, one may ask if, in spite of his better intentions, his idea of the human heart as supra-temporal unity does not jeopardize the Creator–creature distinction.

[16] Cf. Paul quoting a verse from the *Phenomena* of Aratos (third century BC) which expresses the continuity between God and humanity: "We are also His offspring" (Acts 17:28).

different modal aspects, and allows for the unity of these perspectives. What can be considered to be an idealistic tendency in Dooyeweerd's thinking also shows up in his resistance to the traditional definition of truth as "adaequatio rei et intellectus," as correspondence between reality and thought (Dooyeweerd 1955, 566, 573; cf. Van Woudenberg 2005, 113–117). Instead, he defines truth as the "*correspondence of the subjective a priori meaning-synthesis as to its intentional meaning with the modal structure of the 'Gegenstand' of theoretical thought*" (Dooyeweerd 1955, 575). Without going into the details of this (complex) definition, it is clear that it does not directly refer to a contact established between the knowing mind and the world to be known.[17]

In a similar vein, Dooyeweerd does not consider that the multiplicity of modal aspects, which also characterizes our encounter of other humans, points to a dualist human nature which could explain this non-reductionist experience. As we have seen, he quite strongly disapproves of traditional accounts of humans as being composed of a body and a soul. According to Dooyeweerd, they have no scriptural warrant and are inherited from Greek philosophy. Mind–body dualism is seen as a direct consequence of the necessarily antithetical, or dialectical, character of autonomous thought (or more precisely: thought which strives to be autonomous):[18] as humans can think only with reference to the divine, they will always sacralise one aspect of the created realm for as long as they do not accept the transcendent foundation of all knowledge. But "the religious absolutization of particular aspects cannot fail to call forth their correlates, which in the religious consciousness begin to claim an absoluteness opposite to that of the deified ones" (Dooyeweerd 1975, 36). Thus autonomous thought is always caught up in irreducible dichotomies: "any idol that has been created by the absolutization of a modal aspect evokes its counter idol" (ibid.). Mind–body dualism is in particular indebted to the form-matter antinomy characteristic of Greek thought, which scholasticism also retains in a somewhat Christianised version.

In Dooyeweerd's analysis, mind–body dualism stems from a reification of modal aspects, confusing the g*egenstand*-relation with the structure of reality (Dooyeweerd 1942, prop. 5; cf. Dooyeweerd 1939, 204, quoted above):

> Whenever Scripture speaks in its *concise religious sense* about the *human soul* or *spirit*, it always shows it as the *heart* of all temporal existence, from out of which are all the issues of temporal life. Nowhere does Scripture teach a dichotomy between a "rational soul" and a "material body" within temporal existence. Rather, it views the body as *this temporal existence as a whole*. And this temporal body is to be laid down at death. In contrast, according to Scriptural revelation, the human soul or spirit, as the religious root of the body, is not subject to *temporal* death, because the soul in fact transcends all temporal things.

Thus Dooyeweerd replaces the traditional body-soul dichotomy with the duality between the heart and the "whole *of man's temporal existence*"; the latter is not be confused with an "*abstract material body*" (Dooyeweerd 1942, prop. 9, italics in original). The heart is "the central unity of our consciousness, which we call our I, our ego. I experience, and I exist, and this I surpasses the diversity of aspects, which human life displays within the temporal order." As it is "the central reference point" of all modal aspects, it cannot be determined by any of them (Dooyeweerd 1975, 180).

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[17] Cf. his critique of Bernhard Bavink's critical realism (Dooyeweerd 1953, 560n2). I further develop the implications of the rejection of *logos* epistemology for the notion of truth in Jaeger (2012b). A critique of my article can be found in Coletto (2015).

[18] The antithetical character of autonomous thought is not to be confused with the antithetical structure of the *gegenstand*-relation: the latter is "*relative* and requires a theoretical synthesis developed by the thinking 'self'"; the former is "*absolute*" as it is the result of neglecting the transcendent grounding of all thought (Dooyeweerd 1948, 60–61).

Dooyeweerd's rejection of mind–body dualism is part of his general attack on the notion of substance. This concept has a long and complicated history in Western thought, and Dooyeweerd devotes a considerable amount of attention to the manifold understandings it has given rise to (e.g., Dooyeweerd 1953, 201–203; 1955, 11–14; 1957, 3–28). In his view, the subtle discussions it has generated point to a basic confusion: the metaphysical concept of substance is "a speculative exaggeration of a datum of naïve experience" (Dooyeweerd 1957, 3). We experience the persistence of things (or persons) in spite of sometimes considerable changes over time. Metaphysics reifies this pre-scientific experience into a "substance." In order to explain the persistence of entities over time, "metaphysics seeks a supra-temporal *substance*, possessing a permanence unaffected by the process of becoming and decay"; this "imperishable substance" is considered to be true "being" (ibid., 4). This view does not sufficiently distinguish between naïve, pre-scientific experience and theoretical thought, turning immediate experience into metaphysical speculation. In particular, it does not take into account that a *Gegenstand* is always constituted by the act of human thought. Instead, it postulates substances inherent in entities, without any link to the cognitive act: "'substances' are opposed as 'things in themselves' to human consciousness" (Dooyeweerd 1955, 11). Thereby, it does not see the constitutive role of modal aspects in the theoretical grasp of reality: "This view consequently breaks the integral coherence of all the modal aspects of our experience asunder" (ibid.).

Dooyeweerd's critique of the concept of substance has caused concern in theological circles. Not only does the concept feature prominently in traditional dualist descriptions of the human being, but (more importantly) it also plays a pivotal role in classic formulations of such central Christian dogmas as the Trinity and Christology. The standard formulation of the Trinity speaks of one divine essence in three persons. The Chalcedonian creed teaches that the Incarnated Son is "consubstantial" with the Father as regards his divinity and with us as regards his humanity, one person in two natures. Despite his severe critique of the concept of substance (synonymous in this context to *essence* or *nature*), Dooyeweerd certainly had no intention whatsoever of rejecting the historic Christian faith. Not considering himself a theologian, he did not provide an account of the Trinity or of the person of Christ which avoids the concept of substance and still succeeds in retaining the content of the traditional affirmations (Young 1969, 292, 300–301). The ancient Christological creeds emerged after painstaking struggles in which some of the early church's finest minds battled against heresies of many kinds. One may thus legitimately doubt whether orthodoxy can be preserved without the traditional language. The warning of another twentieth-century Dutch academic may be worth pondering. Concerning attempts to break from the formulations of the ancient creeds, G.C. Berkouwer made the following observation: "The result was nearly always that in contending with the words of the church the polemicist actually clashed with what the church intended, namely, to confess that Christ was truly God and truly man, and not to offer a scientific formulation of the mystery of the Incarnation" (Berkouwer 1954, 71).

The church fathers could only partly resort to conceptual tools provided by Greek philosophy in order to formulate the Trinitarian and Christological dogma in a way which would guard against heresy. Never before had human thought had to clearly distinguish between nature and person. Up to that point, it had been enough to define a person by a sufficiently detailed description of his/her substance. In antiquity, philosophers faced with the question "Who is he?" (the person) thought it enough to provide an answer to the question "What is he?" (his nature or substance). But monotheism implies that Father, Son, and Holy Ghost cannot be distinguished by refining the description of their nature. Being one God, they share one essence. As Augustine saw, the only possible distinction between them is relational, constituting them as different persons. Although early theologians brought over from Greek philosophy the concept of substance, they first had to forge the concept of person before they could provide a satisfactory formulation of the Trinity (and of the two natures of Christ, united in one person).

In this context, it is striking to observe that Dooyeweerd's notion of *heart* comes close to what in Trinitarian terminology can be designated as the *person*: the subject as the centre of personality, underlying all experience and acts.[19] Dooyeweerd thus replaces the dualism of mind (or soul) and body with the dualism between person and the "whole of man's temporal existence." He claims that in doing so, "the distinction between soul and body acquired a more sound formulation than in the traditional dichotomistic theory of substance" (Dooyeweerd 1939, 232). But can this claim be upheld? The distinction between substance and person is, historically, a unique contribution of Christian theology to human thought. Given that Trinitarian and Christological dogmas clearly seem to need both concepts, one may well wonder if anthropology can do with only one of them—the concept of person.

Emergence in the Context of Creation

It will certainly not be possible to reintroduce the concept of substance without engaging in a thorough revision of Dooyeweerd's whole thought framework and, in particular, the implied epistemology. Dooyeweerd's critique of the concept is too closely linked to major tenets of his system for a minor adaptation to be sufficient. Undertaking a thorough evaluation of Dooyeweerd's epistemology is beyond the scope of this paper. A particularly delicate aspect in the context of our discussion is his sharp distinction between naïve, pre-scientific experience and theoretical thought. Could it be that this distinction is itself an antinomy, ultimately linked to autonomous thought (turning one of Dooyeweerd's critical tools against his own system)? And why limit our investigation to understanding the unity of modal aspects? Given that they are generated by theoretical thought, it may be sufficient to look to a human anchor, the heart, in order to guarantee their coherence.

But despite all idealistic disclaimers, the deep question is the correspondence between human thought and created reality. Dooyeweerd himself points to an order inherent in the reality to be known when he speaks of the "resistance" of the *Gegenstand*: in the antithetical relation characteristic of theoretical thought, "any attempt to grasp . . . [the non-logical aspects] in a logical concept is met with resistance on their part" (Dooyeweerd 1953, 39). But this resistance is a sign that human thought is in touch with a reality that goes beyond human cognition. Nobody less than the divine *Logos*, creatively active both in the world to be known and in the human knower, will enable us to understand how this contact is possible. As we have seen, *logos* epistemology has scriptural groundings. And there is no need to develop a *logos* theory of knowledge in the direction of rationalism, which Dooyeweerd was right to reject: human knowledge is the knowledge of created beings, and therefore always derived and limited. In addition, grounding knowledge in the biblical *Logos* makes ample room for the personal dimension of all human cognition, as he is the second person of the Trinity.

Since I have written elsewhere on the subject of developing a coherently Christian epistemology based on the *Logos* (cf. Jaeger 2004; 2012c, chap. 4), I will not attempt a thorough engagement with Dooyeweerd's overall system here. In conclusion, let us simply summarize the extent to which insights taken from Dooyeweerd in this article have shed light on contemporary debates about emergence, and where we cannot follow his lead (in my opinion at least) if we want to obtain a thoroughly non-reductionist view of mankind.

(1) Typical analytical accounts of emergence are non-starters, because they try to build up non-physical levels of reality from a physical base level. Despite their best intentions, they do not radically break with physicalism, the latter being characteristic of so many strands of modern thought.

[19] There is a subtle debate in Trinitarian theology on the exact notion of the person. Traditionally, the person as "mode of being" played a central role. I use here a slightly more existentialist notion.

Dooyeweerdian thinking can assist us here in two ways. Firstly, it shows us that no purely physical reality exists; any object can be analysed according to all modal aspects. Purely physical objects are a theoretical abstraction, useful in certain circumstances (when physics provides us with an increased understanding and control of reality, for example). But one should not try to build up other levels (life, psychology, history, etc.) from such an abstraction. Secondly, Dooyeweerd provides us with an explanation for the persistence of reductionist thought far beyond its practical usefulness: it is a nostalgic yearning for a united existence. Those who do not know of the unifying origin of the world in the one Creator have to look for a unifying point in creation: "the innate religious impulse of the human ego [is diverted] from its true origin and direct[ed] . . . upon the temporal horizon of experience with its diversity of modal aspects. By seeking itself and its absolute origin in one of these aspects, the thinking *I* turns to the absolutization of the relative" (Dooyeweerd 1975, 27).

(2) The anti-foundational account of emergence starting out from *autopoiesis* agrees with the foregoing Dooyeweerdian analysis in that there is no purely physical level from which an emergentist account can start. But the two radically disagree on how to link this fact to creation: whereas the former considers that foundational views are correlated to "the creation-creator pairing" (Bitbol 2004, 28, quoted above), the latter finds in the transcendent grounding of the world the decisive argument against reductionism and its absolutization of one aspect of created reality. This radical difference concerning creation leads in turn to a significantly different outworking of the anti-foundational intuition. The *autopoiesis* account is understood in the sense of Buddhist emptiness: the reification of the physical base is avoided, as nothing can claim independent or inherent existence. In this way, the absolutization of the physical is forestalled. But this seems to come at a high price: since all levels (base and emergent) are relative to each other, without any transcendent foundation, they tend to fade into nothingness. Only creation can provide things with true reality, without absolutizing any of them.

(3) Dooyeweerd has provided us with a very illuminating analysis of the necessarily antithetical character of (would-be) autonomous thought. He holds that standard philosophical dualisms about human nature are indebted to the form-matter antinomy of Greek thought, continued in a christened version in scholasticism (of both medieval and modern times), and I consider his line of argument to be decisive on this point. Platonic, Aristotelian, Thomist, or Cartesian dualism cannot be integrated into a Christian anthropology without a thoroughgoing revision, overcoming the form-matter antinomy. In particular, no form of dualism that depreciates the body can be accepted, as humans in their whole being are part of God's good creation.

(4) Nevertheless, Dooyeweerd's own account of humanness does not make sufficient room for the duality of body and mind/soul which is taught in Scripture (for example, Matt. 10:28; 1 Cor. 5:3; 2 Cor. 4:16; James 2:26). In particular, it is not clear how Dooyeweerd can accommodate the traditional understanding of the intermediate state as a conscious disembodied existence of the individual which is *contemporaneous* with the body's lying dead (and rotting) in the grave.[20] If the body was the "whole of man's temporal existence," being "laid down at death" (Dooyeweerd 1942, props. 5 and 9, quoted above), how could the person enjoy conscious existence during the time leading up to the resurrection of the body? A kind of "minimal dualism" is needed to accommodate the duality of mind/soul and body, implied by the intermediate state (Cooper 2000, xxv–xxviii). Dooyeweerd's analysis warns us against expressing this minimal dualism in terms indebted to the form-matter

[20] Despite the existence of alternatives (e.g., soul sleep and immediate resurrection), I consider that the traditional understanding of human existence between the individual's death and the eschatological resurrection has good biblical warrant. For a thorough defence of the continued disembodied existence in time, cf. Nicole (2009) and Buchhold (2009). One of the strongest arguments for the contemporaneity of the intermediate state with ordinary history is Jesus' existence between his death and his resurrection three days later, and his promise to the criminal crucified at his side: "Today you will be with me in Paradise" (Luke 23:43).

antinomy. But his own account does not take into account all the data about human existence at our disposition.

(5) The distinction between substance (or nature) and person is an original Christian contribution, which was historically accomplished by Trinitarian theology. Given the pivotal role that the concept of substance plays in Trinitarian and Christological formulae, it is to be expected—over against Dooyeweerd—that a Christian anthropology cannot do without it. Whereas most discussions in (analytical) philosophy of mind limit themselves to the choice between monism and dualism and are suspiciously quiet about the fact that humans are *persons*, Dooyeweerd's replacement of the substance of the soul with the person also leaves us with an overly restricted conceptual basis for a satisfactory account of humanness.

(6) Granted, not all of the connotations of the concept of substance can be upheld in a Christian worldview. In particular, no created substance is capable of independent existence in an absolute sense: it is defined primarily by its relation to the Creator and secondarily by its relations to other creatures. But an epistemology based on *Logos* theology allows us to recover a workable concept of substance: Trinitarian creation provides the creature with "thickness," that is, substantial consistence as God's covenant partner, while at the same time affirming its continued dependence on the Creator. As the classic definition by Reformed theologian Louis Berkhof states: by his act of creation, God provided the world with an "*existence, distinct from His own and yet always dependent on Him*" (Berkhof 1953, 129; italics in original). Dooyeweerd clearly saw one side of the dual-faceted truth of creation, and he is right when he insists that the creature is "nothing *in itself*," when it is isolated from other creatures and above all from its transcendent Origin (Dooyeweerd 1975, 181). But his rejection of *logos* theology, and consequently of *substance*, leads one to doubt that he allowed enough space for the reverse of this truth; namely, that the act of creation confers the privilege of *being* to the creature. In the words of the apostle: "For in Him we live and move and have our being" (Acts 17:28).

(7) An epistemology based on *Logos* theology that implies a recovery of created substances allows for a realist reading of the multidimensionality of human existence, highlighted by Dooyeweerd's modal-aspects analysis. Instead of concentrating on theoretical *thought* which brings to light the modal aspects, we can read them as a manifestation of a multidimensional *reality*—in line with Dooyeweerd's own contention that a modal sphere is *not* of a "purely epistemological character" but is "an aspect of cosmic reality" (Dooyeweerd 1955, 4–5). Thus the active powers which humans deploy in the different spheres reveal a multidimensional human nature. When multidimensionality is fully taken into account as characteristic of reality, and not merely of human theoretical experience, we have arrived at last at a truly non-reductionist view of humanity.

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