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**Jean Fernel on Divine Immanence and the Origin of Simple Forms**

**Andreas Blank**

**University of Paderborn**

Talk about “the divine” is ubiquitous in Jean Fernel‘s *De abditis rerum causis* (1548). To the things that are said to be “divine” belong the “simple forms” of living beings, celestial bodies, human souls, and a particular kind of diseases that Fernel calls “diseases of the total substance”. Among prominent commentators, there is a consensus that Fernel uses “divine” in a highly philosophical sense. For example, Jacques Roger writes that “the dogmatic rationalism of Fernel […] refrains from confusing the natural and the divine. Certainly, he allows […] an influence of the stars on human beings, and he has even devoted a large part of his early mathematical work *Monalosphaerium* (1527) to astrological questions. But this is, for him, a natural influence, comparable to the influence that climate or nutrition can have on the human body.”**[[1]](#footnote-1)** Vincent Aucante concurs and suggests understanding Fernel’s views about the celestial part of the soul in the sense of an influence of the stars.**[[2]](#footnote-2)** Most recently, John Henry and John Forrester have argued that Fernel “is not reversing the usual academic tendency to maintain disciplinary boundaries, and to keep medicine and divinity separate.” According to their interpretation, whenever the divine is invoked by Fernel, it is clear that he is not talking about direct intervention by God but rather “is using the term divine as a shorthand way of referring to God’s use of secondary causes, when those secondary causes are unknown”.**[[3]](#footnote-3)** Indeed, one of the interlocutors in the dialogue, Philiatros, asks at one point, “Please tell us briefly what you wish the word ‘divine’ to convey”, only to be told: “Anything that Aristotle had previously said corresponded to the element of the stars”.**[[4]](#footnote-4)**

While I agree that the interpretations of Roger, Aucante, Henry and Forrester capture adequately the stance that Fernel takes towards the end of *De abditis rerum causis*, in chapter 18 of the second book, I would like to suggest that along the way, in various passages of the intricate dialogue that constitutes the text of the work, Fernel at least considers some more radical suggestions – suggestions which imply that, in some sense, God is immanent in the forms of living beings. To be sure, Fernel minimizes the extent of direct divine interventions in the world: “What God entrusted to heaven to carry on its management, as if he were taking time off. And all that we say comes into being by the laws of nature, did first proceed from God; God certainly nowadays generates fairly few things directly without mediation by nature or seed, but regulates everything through heaven, having established nature’s laws”.**[[5]](#footnote-5)** Nevertheless, this leaves the nature of secondary causes open. Is there a sense in which, according to Fernel, God is immanent in secondary causes? In section 1, I will outline three different senses in which God has been understood as immanent in nature that are relevant for early modern metaphysics of nature. In section 2, I clarify the sense in which Fernel understands the forms of living beings as “simple forms” and the reason why he maintains that such forms require celestial causation for their production. In section 3, finally, I argue that some of Fernel’s remarks on the origin of simple forms go beyond his conception of celestial causation and imply one version of a theory of divine immanence – a theory according to which God is immanent in simple forms.

***1. Varieties of Divine Immanence***

One view of divine immanence influential in Renaissance and Humanist Platonism is based on a theory of emanative causation. Christia Mercer characterizes the concept of emanation as follows: “Pagan and non-pagan Platonists differed about the details of their creation stories, but they were in general agreement about the result: everything in the created world was understood to be a manifestation of the divinity. The basic idea was that the diversity in the world was the essence of the Supreme Being variously manifested”.[[6]](#footnote-6) As she points out, in the Platonist literature, there are three standard ways to describe the relation between higher and lower strata in the ontological hierarchy: (1) The model-image relation, (2) the participation relation, and (3) the emanation relation.[[7]](#footnote-7) In the emanation relation, a more perfect being A possesses an attribute f and causes this attribute to be instantiated in a less perfect being B in such a way, however, that A loses nothing while B comes to instantiate f-ness. As Mercer explains, emanation includes the model-image and the participation relation: B participates in f-ness, as long as A emanates f-ness; and B is an imperfect image of A, as long as A emanates f-ness.[[8]](#footnote-8) She also mentions the following poignant formulation of a theory of emanative causation formulated in the *Universa de moribus philosophia* by the Paduan philosopher Francesco Piccolomini (1520-1604):

Things are in God as in a fount and first cause, *i.e.*, most eminently; secondly, they are in Mind as Ideas and form; thirdly, they are in Soul as *rationes* placed in its essence; fourthly, they are in Nature as seeds, for nature is the seminal power effused in universal matter by the soul of the World. Fifth, they are in Matter, although as a shadow, through imitation and participation.[[9]](#footnote-9)

According to Platonic emanation theories, the hierarchy of beings is understood as manifestation of the divine essence. We will presently see that Fernel uses an emanation scheme quite similar to the one formulated by Piccolomini to characterise the nature of at least a part of the hierarchy of beings.

However, in early modern metaphysics of nature other conceptions of divine immanence play a role, as well. According to such alternative conceptions, God is immanent in a particular aspect of nature, either in matter or in form. As Albertus Magnus reports, the 12th century philosopher David of Dinant claimed that prime matter and God are the same.[[10]](#footnote-10) This view was vehemently opposed by Albertus Magnus and Thomas Aquinas, but in the 16th century it still attracted the attention of natural philosophers. As the Bologna-based Aristotelian philosopher Alessandro Achillini explains in his *Commentary on Physics I* (1512), one of the reasons for such a view is the consideration that both prime matter and God are simple beings, another reason that both prime matter and God are all that they are in themselves; and still another reason that both God and prime matter exist before all generation and corruption of individual objects. However, Achillini objects that while God is not mixed with any particular object, matter is mixed into all objects. Moreover, he points out that matter and efficient cause of objects do not coincide, while God is the efficient cause of things.[[11]](#footnote-11)

Objections such as the ones raised by Achillini make it clear that equating God with prime matter is problematic from an Aristotelian point of view, and in fact it is not an option considered by Fernel. However, Fernel does consider the view that God is immanent in the form of material objects, a view that goes back to the Stoic tradition. Justus Lipsius, in his *Physiologia Stoicorum* (1604), provides an impressive collection of relevant source materials. Lipsius mentions a passage from Lactantius according to which the Stoics “understood by the name ‘nature’ two most diverse things, GOD and the WORLD […] And they say that one cannot be without the other, as if nature were God mixed with the world”.[[12]](#footnote-12) Likewise, Diogenes Laertius writes about the Stoics: “They call nature in one sense what contains the world; in another sense what it generates and brings forth [things] on earth”.[[13]](#footnote-13) Seneca makes explicit an implication of such a view of the role of God: “What else is nature than God and divine reason inserted into the whole world and its parts?”[[14]](#footnote-14) Finally, Lactantius connects the issue of Divine immanence with the origin of forms: “The Stoics divide nature into two PARTS: one that produces, the other that proves suitable for production: in the former, there is a sensible force, in the latter there is matter, and neither can be without the other.”[[15]](#footnote-15) This is why Lipsius ascribes to the Stoics the view that, although God does not have a form himself, he nevertheless produces all forms, and shows himself in them.[[16]](#footnote-16) It is such a conception of the divine origin of forms that will prove relevant for understanding Fernel’s view of divine immanence in simple forms.

***2. Simple Forms and Celestial Causation***

In which sense does Fernel think the forms of living beings are “simple”, and why does he think that it is necessary to suppose the existence of such entities? An answer to both questions has much to do with Fernel’s account of mixture (*mixtio*) – the generation of composite bodies out of elements. Like many of his predecessors, Fernel struggles with Aristotle‘s enigmatic statement that, while the elements undergo a change and union in genuine mixture, the “dynamis” of elements is preserved.[[17]](#footnote-17) One of the classical solutions to the problem of mixture, going back to the Persian philosopher Ibn Sina (Avicenna), has it that the substantial forms of the elements remain in mixture while their qualities are weakened. Another solution, going back to the Arabic philosopher Ibn Rushd (Averroes), has it that both the substantial forms and the qualities of the elements are weakened. A third solution, going back to Aquinas, has it that the substantial forms are destroyed and only qualities enter into the mixture.[[18]](#footnote-18) Fernel is clear about the view that in genuine mixture the ingredients must undergo some kind of change, since otherwise what would happen is only a putting-together of parts (*appositio*).[[19]](#footnote-19) He also holds that the forms of elements that constitute the matter of a composite remain intact in the composite since, if these forms were to perish, it would be a case of destruction but not of mixture.[[20]](#footnote-20)

Other parameters of Fernel’s account of mixture are given by his analysis of the concept of a particular species of mixed bodies, namely, living beings. He points out that there is a wide agreement among ancient philosophers that living beings are to be regarded as substances. But if living beings are substances, their parts must be substances, too, and this holds for their ultimate constituents, the elements, as well. But according to the traditional conception of substance, the substantiality of a material body derives from its form. For this reason, the form itself must possess substantiality, in the case of living beings as well as in the case of elements. In Fernel’s view this rules out understanding the form of elements as combinations of elementary qualities.[[21]](#footnote-21) Nevertheless, he maintains that elementary qualities play a crucial role in genuine mixture since they are, contrary to forms, what allows for being changed gradually. Hence, what is going on in mixture, in his view, is a modification of elementary qualities and the emergence of a particular proportion (or “temperament”) of such modified qualities in the mixed body.

According to Fernel, the form of a given elementary particle is “simpler” in the sense that it is the origin of the motions of this elementary particle, while the form of a mixed body is “less simple” in the sense that it is the origin of the more varied motions of the composite.[[22]](#footnote-22) Note, however, that this distinction between more or less simple forms is one that allows for degrees. By contrast, Fernel does not call the forms of elementary particles “simple” in an absolute sense. Rather, he uses this term to designate the forms of composite bodies. On first sight, this usage is puzzling since the motions of composite bodies are more complex than those of elementary particles. Fernel, however, has a concise argument that, in his view, shows why the forms of living beings cannot be understood as the temperament of elementary qualities. Starting from the consideration that the proportion among elementary qualities can be described as a kind of “harmony”, Fernel argues with Aristotle against the view that the soul of a living being can be understood as a “harmony”:

[A] harmony is actually a balancing of voices in concert together. But this balancing is not a substance; a soul, however, is a substance. Further, a soul is prior to a body and more excellent, and as it has pre-eminence and dominance in the body, it controls and moves it. A harmony, in contrast, is posterior to its instrument (such as a lyre) and has no power over it; it does not move it nor control it. In addition, the dissolution of the blending of the concordant voices dissolves the harmony itself too in some way, and with change in the blending the harmony is intensified or reduced. But in the mixing and tempering of parts, it is different; in fact, on a change of its tempering, a soul neither seems nor is at once another and yet another. And when occasionally the body is entirely altered at an impact, the soul nevertheless itself remains present, even though we observe the harmony spoiled.[[23]](#footnote-23)

Hence, the form of a composite body is not its temperament. The temperament, understood as a certain proportion or “harmony” among elementary qualities, is an accident (in the philosophical sense) not a substance; it is posterior to the qualities of elementary particles and hence cannot have any active properties characteristic of forms; and while the temperament of a living being can change in fundamental ways, the living being remains the same individual over such changes.[[24]](#footnote-24)

But then, where do the forms of mixed bodies come from? Fernel maintains that “the single Form of the Heaven comprehends in potency all forms, be they already existent or simply possible, of living beings, plants, stones, and metals, and as if pregnant with innumerable forms, begets and spawns from Herself everything; the one Force and Faculty of Him discloses the forces of every perishable thing that ever appeared or will appear in the future.”[[25]](#footnote-25) Zanier and Hirai have pointed out that Fernel here takes up a tradition dominant in Renaissance Platonism that regards the heavens as the origin of subcelestial forms.[[26]](#footnote-26) As Fernel holds, mixed bodies such as metals, stones, plants, and animals “draw their essence of their form from heaven”.[[27]](#footnote-27) He is explicit about the view that subcelestial bodies derive their form from the heavens because the motions of subcelestial bodies are influenced by the movements of celestial bodies.[[28]](#footnote-28) Since motions presuppose forces that move both heavenly and subcelestial bodies, Fernel maintains that “there surely must be a single uninterrupted power of the whole of nature, which is all diffused in the universe”.[[29]](#footnote-29) Taking up a suggestion from the Pseudo-Aristotelian *De mundo* (which he takes to be an authentic work by Aristotle), Fernel holds that the multiplicity of movements of subcelestial bodies derives from the fact that the inner heavenly spheres rotate in a direction opposite to the rotation of the extreme sphere.[[30]](#footnote-30) Indeed, as far as spontaneous generation goes, Fernel maintains that the form of spontaneously generated living beings derives from a complex combination of movements of heavenly bodies.[[31]](#footnote-31) In this sense, his view of celestial causation is combinatorial: the complex motions of composite bodies on earth are the result of the combination of motions of heavenly bodies.

However, such a conception of celestial causation leaves two questions open: first, how is the motion of distant heavenly bodies communicated to composite bodies on earth and, second, how does the transmission of motion explain the substantiality of some composite bodies, namely, living beings. Fernel’s theory of “spiritus” gives answers to both questions. According to Fernel, *spiritus* is not only a force that pervades the universe, but also a subtle, material medium.[[32]](#footnote-32) He writes: “The spirit that carries the world along, dispersed by heaven throughout the universe, endows everything with these [powers], and at the same time with a form […]”[[33]](#footnote-33) This *spiritus* not only transmits celestial motions in a way such that composite bodies on earth would be purely passive, but also transmits something of the powers of heavenly bodies to bodies on earth, such that the simple forms of composite bodies become principles of activity of their own. Fernel maintains that the divine spirit “distributes itself” into the whole of a composite body and “despatches and instals the simple form into the prepared matter”.[[34]](#footnote-34) Hence, Fernel’s conception of *spiritus* is more complex than might be evident on first sight. It is at this juncture that Fernel considers some suggestions that imply that God, in some sense, is immanent in simple forms.

***3. Simple Forms and Divine Immanence***

While the *spiritus*, according to Fernel, works as a material medium that transmits motions and forces from celestial bodies to subcelestial bodies, it is also a constituent of both, celestial and subcelestial bodies. Fernel quotes a passage from *De mundo*, according to which “[s]pirit is the name of a substance in both plants and animals, an animate and fertile substance penetrating everything”.[[35]](#footnote-35) In his own words, he writes:

God […] imparted a procreative power to individual things, through which the birth and death of things would stay permanent. But how did he impart it? Evidently by scattering the seeds of his divinity: for he implanted these seeds of generating, general ones into the heavens and stars, their own special ones into individual things.[[36]](#footnote-36)

Hence, the *spiritus* is not only a medium through which the motion of the heavens is transferred to individual bodies; it is also a constituent contained in the seeds of individual things and in those of celestial bodies. *Spiritus* is a constituent common to the seeds of celestial and sublunar bodies. Fernel comments on Plato‘s idea that the world is a single living being which comprises all other living beings within its boundaries (*Timaeus* 28d): “So when God (who exists forever) had founded this universe at first, he placed round it outside the eternal soul of the world, and extended it [the soul] from the centre through it all; next, with the very beautiful structure of the world completed, he implanted into it some seeds of reasoning, and divinely introduced the starting of life, so that it would beget procreating power too along with the world”.[[37]](#footnote-37) Fernel suggests that the soul of the world is “the giver of forms” (*datrix formarum*).[[38]](#footnote-38) In addition, he argues that the theory of *semina* requires a universal medium which closely resembles the Stoic *pneuma*:

The world’s body is a solid tangible thing, and within the grasp of the senses, but its soul is utterly pure and simple, devoid of all bodily mass. Yet these two, I say, being completely different and a wide span apart, cannot be linked on any basis except with the mediation of some nature in between; and this [nature] is the ethereal divine spirit, common to both and, as it were, linking both. We have no doubt that a spirit resides in animals that both maintains soul in body, and provides itself as an instrument suited to all its functions; similarly, it is reasonable that there is one ethereal divine spirit in the world, which unlike the other one, draws up anything from transient earthly things, but is wholly ethereal, wholly lucid, and possesses a divine and entirely heavenly status.[[39]](#footnote-39)

Fernel presents this passage as a quotation in a series of quotations which he ascribes to Plato‘s *Timaeus* and *Epinomis* but, as the editors of *De rerum abditis causis* have noted, none of these quotations is found in these works. Quite possibly, Fernel uses entirely fictitious quotations to sanction his own, idiosyncratic view that combines a Platonic *semina* theory with a Stoic *pneuma* theory.

For Fernel, holding a *semina-plus-pneuma* theory is by no means incompatible with a theory of emanative causation. In fact, Brutus, one of the interlocutors in the dialogue that constitutes the text of *De rerum abditis causis* argues that the (modified) *semina* theory proposed by Fernel’s spokesperson Eudoxus is equivalent to a Platonic emanation scheme:

By Good [Plato] designates God, the Father and Author of all things, who in the *Parmenides* is established as simple and unmoving, above all the nature and understanding of every being, and he is overflowing goodness to all things. Mind comes forth from the Father and the Good, like a blazing radiance from the light innate in the sun […] Again, from Mind the Soul of the World emanates, like radiance from a light, and breathes through everything and sustains everything in life. Around the primary being who is the father of all, is the simple and indivisible idea of goodness. Distinctions of ideas without number flow from it, as if from a vast inexhaustible spring […] The divine mind accepts these ideas of all things […]; and that mind lodges in its bosom, so to speak, the everlasting ideas of all things that are, that have been, and that will one day come to be. And from them emanate the patterns of ideas introduced into the soul of the world, and from the patterns seeds of patterns are dispersed into the heavens and the stars.[[40]](#footnote-40)

Here, the “seeds of patterns” included in celestial bodies are included in a Platonic emanation scheme. Like the higher levels of the hierarchy of being, they are characterised as manifestations of the essence of God, who is said to “overflow” into the things constituting this hierarchy. Brutus is explicit about the view that the *spiritus* should be included into such an emanation scheme, when he points out that Plotinus believed that the *spiritus* “emanated whole from the soul of the world.”**[[41]](#footnote-41)** Hence, the *spiritus* contained in celestial bodies is divine in a sense that is not reduced to its role in celestial causation. But, as we have seen, the *spiritus* is a constituent common to celestial bodies and living beings and their seeds on earth. Hence, the *spiritus* contained in the seeds of living beings, too, can be understood as emanating from God. Moreover, the *spiritus* is the origin of simple forms in the sense that it is the “vehicle” (*vehiculum*) of the patterns of seeds dispersed into the heavens.**[[42]](#footnote-42)** Because the portion of *spiritus* contained in a composite body is the material substratum of the simple form of this body, the origin of simple forms not only involves celestial causation but also the agency of an entity that participates in the divine essence. In this sense, God is immanent in simple forms.

Fernel’s spokesperson, Eudoxus, repeatedly gives voice to the notion of divine immanence. He claims that, according to *De mundo*, “God […] is divided up by his seeds through all natures, into plants and animals, whether you consider forms or kinds”, and also mentions that Vergil writes: “For God pervades all things, the land and the expanses of sea and the deep heaven”.**[[43]](#footnote-43)** As Henry and Forrester point out, what the author of *De mundo* actually says is that “the whole array of heaven and earth is […] divided up according to all natures”.**[[44]](#footnote-44)** Nevertheless, Fernel’s misquotation may be motivated by another passage from *De mundo*, which Eudoxus (correctly) quotes a few lines later: “It is an ancient topic […] that all things had been established and assembled together both out of God and through God […]”**[[45]](#footnote-45)** Moreover, taking up the Platonic metaphor of “flowing” from God, Eudoxus argues that “as the outstanding heavenly powers of this sort have flowed directly from God, for that reason we declare that they are genuinely divine”.**[[46]](#footnote-46)** In this sense, he wants it to be understood that “the ancients said, God is divided among all natures, and all things are full of Gods”.**[[47]](#footnote-47)**

In these passages, Fernel certainly does not put forward a theory of direct divine intervention. God, in the usual course of nature, acts by means of secondary causes, and the *spiritus* is one of these secondary causes. Nevertheless, Fernel gives some clues as to the sense in which the *spiritus* could be understood as divine, namely, if it is understood as a part of a hierarchy of beings that emanate from God. At the same time, he restricts the applicability of emanative causation: while he thinks that the origin of the “seeds of patterns” in heavenly bodies can be explained in terms of emanative causation, he holds that elements have forms of their own and, hence, are substances in their own right. Elements and their forms depend on God in the sense that they are part of the created world; but they do not participate in the divine essence. Since they are constituents of all mixed bodies in the world, including living beings, there is something about mixed bodies that cannot be understood as emanating from the divine essence. In Fernel’s view, with relation to elements and their forms, God is transcendent. However, he indicates a sense in which God is immanent with respect to simple forms: According to the view put forth by Brutus, the *spiritus* is the material substratum of simple forms and at the same time participates in the divine essence because it emanates from God.

***4. Conclusion***

Is this Fernel’s last word on the matter? Probably not since, as I mentioned at the beginning of this paper, in his summary of the origin of simple forms in chapter 18 of the second book of *De abditis rerum causis*, Fernel does not return to his considerations concerning divine immanence. Also we must keep in mind that a crucial aspect of the considerations that suggest a stronger sense of “divine” is expressed not in the words of Fernel’s spokesperson Eudoxus but rather in the words of Brutus, a figure who earlier in the dialogue gives voice to theories that are sharply criticised by Eudoxus. At this later stage of the dialogue, however, Eudoxus does not object to Brutus’ conciliatory views. Quite on the contrary, he thinks that they include “very reliable and convincing evidence on the nature of the topic.”**[[48]](#footnote-48)** Moreover, Fernel puts the remarks about God “being divided” among natural things into the mouth of Eudoxus, even if he does so by using a distorted quotation from *De mundo*. Of course, saying that the author of *De mundo* maintained that God is divided among natural things is not the same as saying that God is divided among natural things. Nevertheless, Fernel cannot have been unaware of the heterodox implications of the notion that God is “divided” among natures. In the *Physiologia Stoicorum*, Lipsius writes at the end of the chapter on the divine nature of form: “I confess that here there are many occult and dubious things; and as Augustine once said: ‘it does not hurt if the origin of the soul is hidden for us: provided that we do not believe that it is a particle of God, but rather a creature”.**[[49]](#footnote-49)** Fernel’s imaginary quotations from *De mundo* seem to affirm exactly what Augustine denies. To be sure, Fernel’s own position is well hidden behind the literary techniques of dialogue and quotation. But even if he ultimately may not have adopted a theory of divine immanence, these literary techniques allowed him to consider such a theory along the way, and to do so without incurring the suspicion of impiety. Not everything that the figures in Fernel’s long and tumultuous dialogue say fits neatly into keeping the disciplinary boundaries between natural philosophy and philosophical theology apart. Even if Fernel may not have ultimately embraced a theory of divine immanence, along the way he at least entertained it as a possible option.

1. J. Roger, *Pour une histoire des sciences à part entière*, Paris, 1995, 88. [↑](#footnote-ref-1)
2. V. Aucante, “La théorie de l’âme de Jean Fernel”, *Corpus* 41 (2002), 9-42; 16-23. [↑](#footnote-ref-2)
3. J. Henry and J. M. Forrester, “Jean Fernel and the Importance of his *De Abditis Rerum Causis*”, *in* J. M. Forrester and J. Henry, *Jeans Fernel’s On the Hidden Causes of Things. Forms, Souls and Occult Diseases in Renaissance Medicine*, Leiden and Boston, 2005 [henceforth: ARC], 3-65, especially 29-35; see ARC, 119: “*Atque ita quantum divinitatis, id est abditarum causarum, inest tum naturali philosophiae, tum rei medicae, hoc unum opusculum scrutabitur* […]” All translations from ARC are Forrester’s. Unless otherwise noted, other translations are my own. [↑](#footnote-ref-3)
4. ARC, 495: “PH. *Dic quaso breviter quid divini appellatione intelligi velis.* EU. *Quicquid supra dixerat Aristoteles proportione respondere elemento stellarum*”. On *De gen. an*., II, 3, 736b29-727a7, see F. Solmsen, “The Vital Heat, the Inborn Pneuma, and the Aether”, *in* *Journal of Hellenic Studies* 77 (1957), 119-123; A. Preus, “Science and Philosophy in Aristotle’s *Generation of Animals*”, *in* *Journal of the History of Biology* 3 (1970), 1-52, especially 35-38; G. Freudenthal, *Aristotle’s Material Substance*, Oxford, 1999, 107-110; J. G. Lennox, *Aristotle’s Philosophy of Biology*, Cambridge, 2001, 229-249. [↑](#footnote-ref-4)
5. ARC, 355: “*Quae Deus olim propriis operibus inchoavit, eadem nunc quasi feriatus coelo tanquam administro continuanda credidit. Et quaecunque naturae legibus existere dicimus, eadem primum processerunt a Deo: qui certe nunc admodum pauca proxime, nec coelo, nec natura, nec semine interveniente ingenerat, sed conditis naturae legibus omnia per coelum administrat*.” [↑](#footnote-ref-5)
6. C. Mercer, *Leibniz’s Metaphysics. Its Origin and Development*, Cambridge, 2001, 185. [↑](#footnote-ref-6)
7. *Ibid.*, 188. [↑](#footnote-ref-7)
8. *Ibid.*, 189. [↑](#footnote-ref-8)
9. *Ibid.*, 188 (Mercer’s translation). See F. Piccolomini, *Universa de moribus philosophia* [first ed., 1583], edited by Rudolph Goclenius, Frankfurt: Petrus Fischer, 1611, 447: “*Res […] sunt in Deo, ut in fonte & causa prima, modo eminentissimo: sunt secundo in mente per ideas, & formam: tertio sunt in anima per rationes in eius essentia insertas: quarto sunt in natura per semine, natura enim est vis seminaria per mundi animam effusa in universam materiam: quinto sunt in materia tanquam umbrae per imitationem & participationem.*” [↑](#footnote-ref-9)
10. Albertus Magnus, II sent., dist. 1, a. 5 (*Opera omnia* XXVII, 17a). On David of Dinant, see G. Théry, *Autour du décret de 1210: I. David de Dinant. Etude sur son panthéisme matérialiste*, Kain, 1925; H. Anzulewicz, “David von Dinant und die Anfaenge der aristotelischen Naturphilosophie im lateinischen Westen”, *in* *Albertus Magnus und die Anfaenge der Aristoteles-Rezeption im lateinischen Mittelalter*, edited by L. Honnefelder, Muenster, 2005, 71-112. [↑](#footnote-ref-10)
11. Alessandro Achillini, *Opera omnia in unum collecta*, Venice, Girolamo Scoto, 1545, fol. 88v. [↑](#footnote-ref-11)
12. Justus Lipsius, *Physiologia Stoicorum*, Leiden: Johannes Maire, 1644 [first ed., 1604], 22-23: “*Ita isti uno Naturae nomine res diversissimas comprehenderunt, DEUM & MUNDUM […] Dicuntque alterum sine altero nihil posse, tamquam Natura sit Deus Mundo permistus.*” See Lactantius, *Divinae institutiones*, VII, 3. [↑](#footnote-ref-12)
13. *Ibid.*, 23: “*Naturam modo dicunt, eam quae Mundum continet; modo illam quae gignit prodicitque super terram.*” See Diogenes Laertius, *De vitis philosophorum*, VII, I, lxxiii, 148 . [↑](#footnote-ref-13)
14. *Ibid.*: “*Quid aliud est Natura, quam Deus, & Divina Ratio, toti mundo & partibus eius inserta?*” See Seneca, *De beneficiis*, IV, 7. [↑](#footnote-ref-14)
15. *Ibid.*, p. 309: “*Stoici Naturam in duas PARTES dividunt: unam quae efficiat, alteram quae se ad faciendum tractabilem praebeat: in illa prima esse vim sentiendi, in hac materiam, nec alterum sine altero esse posse.*” See Lactantius, *Divinae institutiones*, VII, 3. [↑](#footnote-ref-15)
16. *Ibid.*, p. 32: “*Sed quanquam ipse formam non habeat, non certe ullam aspectabilem, tamen omnes formas format, atque in iis se ostendit.*” [↑](#footnote-ref-16)
17. Aristotle, *De gen. et corr.*, 327a30ff. [↑](#footnote-ref-17)
18. For an overview of the classical solutions to the theory of mixture, see A. Maier, *An der Grenze von Scholastik und Naturwissenschaft*, 2nd edition, Rome, 1952, 22-35. [↑](#footnote-ref-18)
19. ARC, 145. [↑](#footnote-ref-19)
20. ARC, 155-157. [↑](#footnote-ref-20)
21. ARC, 147-151. [↑](#footnote-ref-21)
22. ARC, 159. [↑](#footnote-ref-22)
23. ARC, 165: “*Est enim harmonia consentientium ac consonatium vocum proportio. At haec ista proportio substantia non est: anima autem est substantia. Item, Anima corpore prior est et praestantior, in eoque principatum tenens ac dominatione, ipsummoderatur ac movet. Harmonia autem suo instrumento, ut cithara, posterior esset, neque habet ullum in eo imperium: non id movet, non moderator. Quinetiam quovis modo, dissoluto consonantium rerum concentu, & ipsa dissolvitur harmonia, mutatoque intenditur aut remittitur: at in partium mistione & temperatura id secus habet, neque enim eius temperaturae mutatione alia statim atque alia apparet aut existit anima. Cumque ad offensionem interdum usque mutetur corpus, ipsa nihilominus tamen permanet anima, etiamsi cernimus harmoniam viciatam […]*” See Aristotle, *De anima*, 407b32. [↑](#footnote-ref-23)
24. ARC, 165. [↑](#footnote-ref-24)
25. ARC, 111. [↑](#footnote-ref-25)
26. G. Zanier, “Platonic Trends in Renaissance Medicine”, *Journal of the History of Ideas* 48 (1987), 509-519, 514; H. Hirai, “Humanisme, néoplatonisme et *prisca theologia* dans le concept de semence de Jean Fernel”, *Corpus* 41 (2002), 43-69, 56; see Marsilio Ficino, *De triplici vita*, Florence, Miscomini, 1489, III, 1; Giovanni Pico della Mirandola, *Heptaplus*, *in* *idem*, *Opera omnia*, vol. 1, Basel, Henricpetri, 11-12. [↑](#footnote-ref-26)
27. ARC, 315. Fernel uses there an imaginary quotation that he ascribes to Aristotle. [↑](#footnote-ref-27)
28. ARC, 307; see Aristotle, *Meteorologica* I, 2, 339a22 onward. [↑](#footnote-ref-28)
29. ARC, 313: “*necesse est profecto, unam esse totius naturae continuatam vim, quae tota mundo confusa, res omnes complexa teneat […]*” [↑](#footnote-ref-29)
30. ARC, 309. [↑](#footnote-ref-30)
31. ARC, 317-319. Again, Fernel uses an imaginary quotation that he ascribes to Aristotle. [↑](#footnote-ref-31)
32. On Fernel’s theory of “spiritus”, see J. J. Bono, “The Languages of Life: Jean Fernel (1497-1558) and Spiritus in Pre-Harveian Bio-Medical Thought”, Harvard University PhD thesis, 1981; A. Clericuzio, “Spiritus vitalis: Studio sulle teorie fisiologiche da Fernel a Boyle”, *in* *Nouvelles de la République des lettres* 8 (1988), 33-84, especially 36-39; J. J. Bono, “Reform and the Languages of Renaissance Theoretical Medicine: Harvey versus Fernel”, *in* *Journal of the History of Biology* 23 (1990), 341-387, especially 356-364; C. Dessi, “Marsilio Ficino, Jean Fernel e lo spiritus”, *in* Antonio Cadeddu (ed.), *Filosofia, scienza, storia*, Milan, 1995, 203-219; H. Hirai, *Le concept de semence dans les théories de la matière à la Renaissance*, Turnhout, 2005, 88-96. [↑](#footnote-ref-32)
33. ARC, 359: “*Has autem vector mundi spiritus, coelo in totam universitatem diffusus, rebus omnibus impertit, simul et speciem […]*” On Stoic elements in early modern theories of the substance of the heavens, see P. Barker, “Stoic contributions to early modern science”, *in* M. J. Osler (ed.), *Atoms, Pneuma, and Tranquillity. Epicurean and Stoic Themes in European Thought*, Cambridge, 1991, 135-154. [↑](#footnote-ref-33)
34. ARC, 319. [↑](#footnote-ref-34)
35. ARC, 481: “*Spiritus dicitur quaedam tum in plantis atque in animalibus, tum per omnia commeans, animata foecundaque substantia.*” See *De mundo*, 394b9-11. [↑](#footnote-ref-35)
36. ARC, 335: “*Deus […] rebus singulis vim indidit procreatricem, qua rerum & ortus & interitus perpetui manerent. Sed quomodo hanc indidit? Sparsis nimirum divinitatis suae seminibus: haec enim generandi semina, generalia quidem in coelos & stellas, peculiaria in res quasque sua inservit.*” [↑](#footnote-ref-36)
37. ARC, 338-340: “*Cum igitur Deus ille qui semper est, universum hoc primum condidisset, mundi aeternam animam illi extrinsecus circundedit, & a medio per omne porrexit, deinde absoluta pulcerrima mundi fabrica, rationum quaedam semina illi indidit, & vitae exordia divinitus induxit, ut cum mundo vim quoque procreatricem gigneret […]*” On Fernel’s conception of “seeds of reasoning”, see Hiro Hirai, “Humanisme, néoplatonisme et *prisca theologia* dans le concept de semence de Jean Fernel”, *in* *Corpus* 41 (2002), 43-69. [↑](#footnote-ref-37)
38. ARC, 368. [↑](#footnote-ref-38)
39. ARC, 369:“*Mundi corpus concretum cum sit & tractabile, sensibusque comprehensibile, illius vero anima simplicissima, purissima, omnisque corporeae molis expers, haec duo, inquam, cum maxime dissideant, & longissimo seiuncta sint intervallo, non alia ratione conjungi potuere, nisi mediae cuiusdam naturae interventu: ea aut est spiritus aethereus & divinus: communis utriusque & amborum seu nexus quidam & vinculum. Ut enim animantibus spiritum inesse non* *dubitamus, qui* *& animam retinet in corpore, & se ad omnia eius munia accommodatum exhibet instrumentum, sic & quendam in mundo esse par est, qui non ut ille, quicquam e caducis terrenisque hauriat, sed totus aethereus, totus lucidus, divinam coelestemque prorsus naturam obtineat.*” [↑](#footnote-ref-39)
40. ARC, 365. [↑](#footnote-ref-40)
41. ARC, 369. [↑](#footnote-ref-41)
42. ARC, 371. [↑](#footnote-ref-42)
43. ARC, 349. [↑](#footnote-ref-43)
44. ARC, 349, note 159; see *De mundo* 400b31. [↑](#footnote-ref-44)
45. ARC, 351; see *De mundo* 397b13. [↑](#footnote-ref-45)
46. ARC, 355. [↑](#footnote-ref-46)
47. ARC, 355; see *De mundo* 397b13. [↑](#footnote-ref-47)
48. ARC, 373. [↑](#footnote-ref-48)
49. Lipsius, 312: “*Multa hic occulta, aut dubia, fateor: & cum Augustino olim: ‘sine periculo origo Animae latet: hactenus tamen, ut non eam particulam Dei esse credamus, sed creaturam.*” See Augustine, *Epistola 190* 1.4. Note that Augustine has “*partem*” instead of “*particulam*”. [↑](#footnote-ref-49)